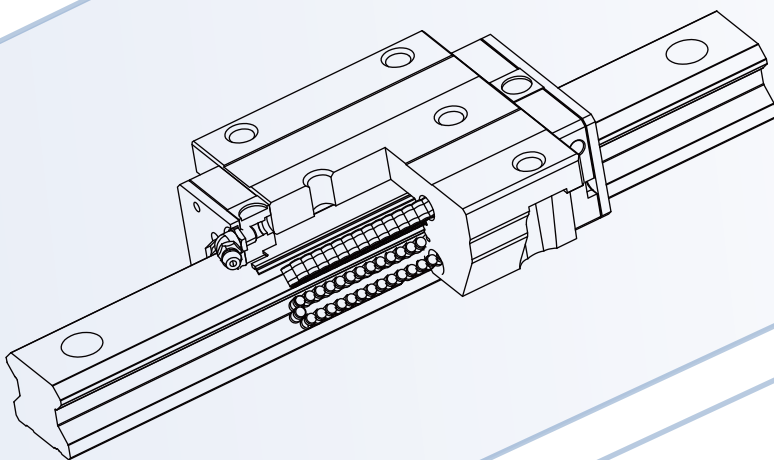
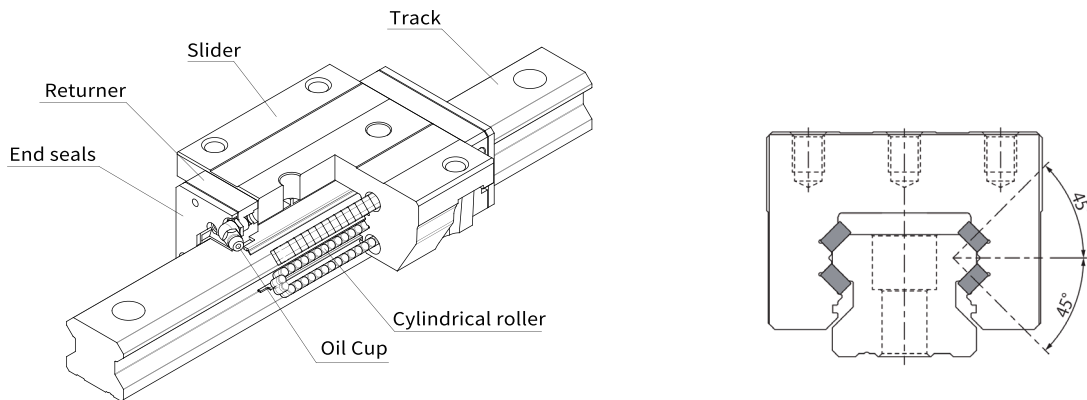


Four-direction equal-load roller rolling guide HLX series





■ Structure and Features of Roller Type Rolling Guide

- Ultra-high rigidity and overweight load

Type HLX uses rollers as rolling elements, which increases the total length of the slider, increases the number of effective roller rollers, and improves the load rating.

- Equal load in four directions

Each rolling surface of HLX type is designed with a contact angle of 45° , which realizes the same rated load in four acting directions (radial, anti-radial and lateral) on the slider, and can bear the load from up and down, left and right directions.

- High interchangeability and rich dustproof accessories

Sliders are divided into C-type and R-type. Sliders and tracks of the same nominal model can be freely paired and used together. Dust-proof accessories are abundant.

■ Field of application

Machining Center, NC Lathe, Grinder, Coordinate Boring Machine, EDM Machine, Mold Processing Machine, Wire Cutting Machine, etc.

Safety factor

Static load rating definition

When the linear motion system is at rest or in motion, if it bears too heavy load or too large impact load, local permanent deformation will occur between the rolling element and the rolling surface. If the load exceeds a certain limit, it will lead to permanent deformation, thus affecting the smooth operation of the linear guide. The basic static rated load is a static load with a fixed direction and magnitude that causes the sum of the permanent deformation of the rolling element and the permanent deformation of the rolling surface to reach 0.0001 times the diameter of the rolling element at the contact part bearing the maximum stress. The basic static load rating of a linear motion system is defined in terms of the radial load, which is used to calculate the static safety factor with respect to the applied load.

Calculate the static safety factor

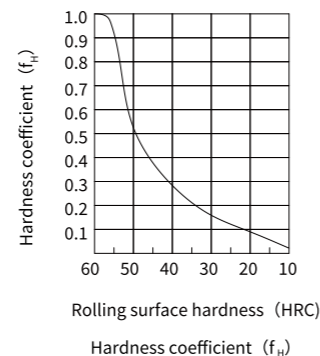
In the process of using the rolling guide, when there is vibration, impact or violent start-stop, heavy cutting force, moment generated by eccentric load or unknown external force, the rolling guide will bear greater load. In this case, the static safety factor of the rolling guide needs to be given priority. The static safety factor f_s is the basic static load rating C_0 according to the rolling guide. Expressed as a multiple of the load acting on the rolling guide. As shown in that follow formula.

When the load in radial direction is large	$\frac{f_H \cdot f_T \cdot f_C \cdot C_0}{P_R} \geq f_s$
When the load in the reverse radial direction is large	$\frac{f_H \cdot f_T \cdot f_C \cdot C_{oL}}{P_L} \geq f_s$
When the side load is large	$\frac{f_H \cdot f_T \cdot f_C \cdot C_{oT}}{P_T} \geq f_s$

- f_s : Static safety factor
- C_0 : Basic static rated load (radial direction) (N)
- C_{oL} : Basic static rated load (reverse radial direction) (N)
- C_{oT} : Basic Static Rated Load (Lateral) (N)
- P_R : Calculated load value (radial direction) (N)
- P_L : Calculated value of load (reverse radial direction) (N)
- P_T : Calculated Load (Lateral) (N)
- f_H : Hardness coefficient
- f_T : Temperature coefficient
- f_C : Contact coefficient

[f_H : Hardness factor]

In order to give full play to the load capacity of the rolling guide, the hardness of the rolling surface should be between 58 and 64 HRC. If the hardness is below this range, both the basic dynamic and static load ratings are reduced. Therefore, it is necessary to multiply each rating by its respective hardness factor (f_H). Since the rolling guide ensures sufficient stiffness, the f_H value of the rolling guide is typically 1.0 unless otherwise specified.

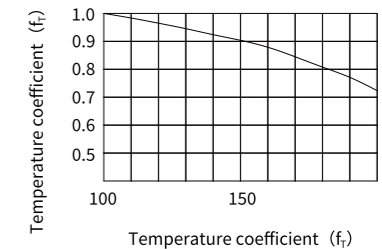


Safety factor, Dynamic Load Rating

[f_T : Temperature coefficient]

If the ambient temperature of the guideway exceeds 100 °C, the adverse effect of high temperature shall be considered, and the basic rated load shall be multiplied by the temperature coefficient shown in Figure 9. At the same time, please note that it is necessary to select the rolling guide corresponding to the high temperature environment.

Note) Except for high temperature resistant rolling guide rails, other products shall be used below 80 °C.



[f_C : Contact factor]

When the sliders are used in a close contact state, it is difficult to obtain a uniform load distribution due to the influence of the torque or the accuracy of the mounting surface. Therefore, when multiple sliders are used in close proximity, the basic load rating (C or C₀) Multiply the contact factor from Table 6.

Note) In large installations where uneven load distribution is expected, consider the contact factors in the table.

Number of sliders in close proximity	Contact coefficient f _C
2	0.81
3	0.72
4	0.66
5	0.61
6 or more	0.6
Commonly used	1

The following table shows the reference values for the static factors of safety

Use machinery	Load conditions	Lower bound on f _s
General industrial machinery	Without vibration or shock	3.0~6.0
	In case of vibration or impact	4.0~7.0
Machine tool industry	Without vibration or shock	3.0~6.0
	In case of vibration or impact	6.0~10.0

Dynamic Load Rating Definition

The basic dynamic load rating (C) is the rated life (L₁₀) of the linear motion system using balls (L₁₀ = 50 km) and rollers (L₁₀ = 100 km), when a batch of identical linear motion system units are operated separately under certain identical conditions. This load condition of constant direction and magnitude is called the basic dynamic load rating, which is used to calculate the service life of the linear motion system when it is operated under load.

Calculation of rated life

Calculated rated life

The service life of rolling guides varies even under the same manufacturing and operating conditions. Therefore, in order to determine the service life of the rolling guide, the rated life defined below is generally used. The rated life refers to the total running distance that can be achieved when 90% of a batch of rolling straight lines of the same specification are operated separately under the same conditions without surface spalling (scaly spalling of the metal surface).

Calculated rated life

The rated life (L₁₀) can be calculated from the basic rated dynamic load (C) and the calculated load (P_c) acting on the rolling guide by the following formula. The rated life is calculated using the dynamic load rating of the rolling guide of the ball. In the case of rails, the basic dynamic load rating with a rated life of 50 km shall be used to calculate the rated life, and in the case of rolling guides with rollers, the basic dynamic load rating with a rated life of 100 km shall be used.

- When using rolling guides with rollers (using basic dynamic load rating with a rated life of 100 km)

$$L_{10} = \left(\frac{C}{P_c} \right)^{\frac{10}{3}} \times 100 \dots \dots \dots (2)$$

L₁₀ : Rated life (km)
 C : Basic dynamic load rating (N)
 P_c : Calculated load value (N)

※ When the stroke length is less than 2 times of the slide length, the above rated life formula may not be applicable.

When comparing the rated life (LL), it is necessary to consider whether the basic dynamic load rating is defined by 50 km or 100 km, and to convert the basic dynamic load rating to ISO 14728 -1 as required. Basic dynamic load rating conversion formula specified in ISO:

- When using rolling guides with rollers

$$C_{100} = \frac{C_{50}}{1.23}$$

C₅₀ : Basic dynamic load rating for a rated life of 50 km
 C₁₀₀ : Basic dynamic load rating with a rated life of 100km

Life calculation under actual service condition

In actual use, due to the existence of vibration and impact in the process of movement, the load acting on the guide rail is constantly changing, so it is difficult to accurately grasp. In addition, the service life of the guide rail will be affected by the use environment of the guide rail, the hardness of the rolling channel surface, the number of sliders, and whether they are close to each other. Take this factor into account. It can be calculated by the following formula.

Rated life considering service conditions L_{10m}

$$L_{10m} = \left(\frac{f_H \cdot f_T \cdot f_C \cdot C}{f_W \cdot P_c} \right)^{\frac{10}{3}} \times 100$$

f_H : Hardness factor
 f_T : Temperature coefficient
 f_C : Contact coefficient
 L_{10m} : Rated life considering service conditions (km)
 C : Basic rated power (N)
 f_W : Load factor
 P_c : Load calculation value (N)

After the rated life (L₁₀) has been obtained, if the stroke length and the number of round trips are fixed, the life calculation is performed using the following formula.

$$L_h = \frac{L_{10} \times 10^6}{2 \times l_s \times n_1 \times 60}$$

L_h : Working life time (h)
 l_s : Stroke length (mm)
 n₁ : Round trips per minute (min⁻¹)

Radial clearance, Precision specification

Radial clearance

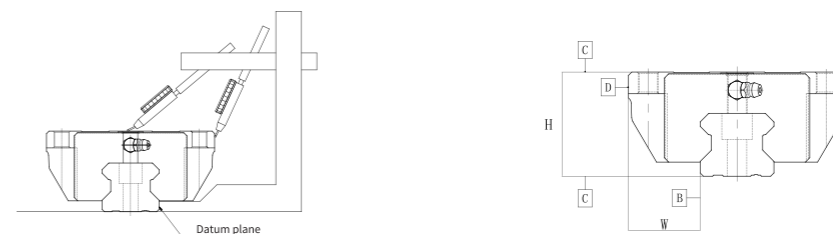
Because the radial clearance of the rolling guide can greatly affect the walking accuracy, load bearing capacity and rigidity of the rolling guide, it is very important to select the appropriate clearance according to the use. In general, the selection of a negative clearance (i.e., the application of a preload *), taking into account the vibrations and shocks that may be generated by the reciprocating motion, has a good effect on the service life and accuracy. The clearance of the rolling guide rail of the HLX series model is adjusted according to the regulations before delivery, so they do not need to be pre-pressed and adjusted.

* Pre-compression (pre-load) refers to the internal load applied to rolling elements (steel balls, rollers) in advance to improve the rigidity of the slider.

Radial clearance of HLQ type
Unit: μm

Model and specification	Heavy precompression(Z3)
HLX25	-2~-1
HLX30	-2~-1
HLX35	-2~-1
HLX45	-3~-2
HLX55	-3~-2
HLX65	-4~-2

Precision specification



Running parallelism

Table1 Track length and running parallelism classified by precision class specification

Unit: μm

Track length (mm)		The value of walking parallelism			
Above	Below	Advanced	Fine grade	Ultra-precision	Super,super precision
—	50	3	2	1.5	1
50	80	3	2	1.5	1
80	125	3	2	1.5	1
125	200	3.5	2	1.5	1
200	250	4	2.5	1.5	1
250	315	4.5	3	1.5	1
315	400	5	3.5	2	1.5
400	500	6	4.5	2.5	1.5
500	630	7	5	3	2
630	800	8.5	6	3.5	2
800	1000	9	6.5	4	2.5
1000	1250	11	7.5	4.5	3
1250	1600	12	8	5	4
1600	2000	13	8.5	5.5	4.5
2000	2500	14	9.5	6	5
2500	3090	16	11	6.5	5.5

Precision specification

Precision specification of HLX type

Unit: mm

Model number	Precision specification	Advanced	Fine grade	Ultra-precision	Super,super precision	
	Item	H	P	SP	UP	
35	Allowable dimensional tolerance for height H	±0.04	0 -0.04	0 -0.02	0 -0.01	
	Group mutual tolerance for height H	0.015	0.007	0.005	0.003	
	Permissible dimensional tolerance for width W2	±0.03	0 -0.03	0 -0.015	0 -0.01	
	Group mutual tolerance for height W2	0.015	0.007	0.005	0.003	
	Parallelism relative to plane A on plane C	ΔC (Refer to Table 1)				
	Parallelism relative to plane B on plane D	ΔD (Refer to Table 1)				
45 55	高度 H 的容许尺寸公差	±0.04	0 -0.05	0 -0.03	0 -0.015	
	高度 H 的成组相互公差	0.015	0.007	0.005	0.003	
	宽度 W ₂ 的容许尺寸公差	±0.04	0 -0.04	0 -0.025	0 -0.015	
	高度 W ₂ 的成组相互公差	0.015	0.007	0.005	0.003	
	相对于 A 面的 C 面行走平行度	ΔC (Refer to Table 1)				
	相对于 B 面的 D 面行走平行度	ΔD (Refer to Table 1)				
65	高度 H 的容许尺寸公差	±0.04	0 -0.05	0 -0.04	0 -0.03	
	高度 H 的成组相互公差	0.02	0.01	0.007	0.005	
	宽度 W ₂ 的容许尺寸公差	±0.04	0 -0.05	0 -0.04	0 -0.03	
	高度 W ₂ 的成组相互公差	0.02	0.01	0.007	0.005	
	相对于 A 面的 C 面行走平行度	ΔC (Refer to Table 1)				
	相对于 B 面的 D 面行走平行度	ΔD (Refer to Table 1)				

Maximun track length and G dimensions

The maximum track length, standard hole spacing, and G, g dimensions of the HLX are shown in the table below

Model number	HLX25	HLX30	HLX35	HLX45	HLX55	HLX65
Maximum length	3000	3000	3000	3000	3000	3000
Standard hole spacing	60	80	80	105	120	150
G,g size	20	20	20	22.5	30	35

Seals and metal scrapers

Name	Installation position	Use occasion
End seals		Places exposed to dust Locations where dust.
Side seals		Dust is easy to enter the place of the slide from the side or bottom. (e.g. vertical, horizontal, and reverse use installations)
Double end seals		In locations with severe exposure to dust or chips
Double end seals		Places exposed to a lot of dust or chips
Metal scraper (non-contact)		Places where welding slag and the like may adhere to the rail

Sealing form			
None	No seal	H	End seal + side seal + self-lubricating device
S	End seal + side seal + inner seal	J	Double end seal + side seal + self-lubricating device
D	Double end seal + side seal + inner seal	L	End seal + side seal + metal scraper + self-lubricating device
G	End seal + side seal + metal scraper + inner seal	M	Double end seal + side seal + metal scraper + self-lubricating device
K	Double end seal + side seal + metal scraper + inner seal	N	End seal + side seal + self-lubricating device + multi-layer cleaning device
A	End seal + side seal + multi-layer cleaning device	P	Double end seal + side seal + self-lubricating device + multi-layer cleaning device
B	Double end seal + side seal + multi-layer cleaning device	Q	End seal + side seal + metal scraper + self-lubricating device + multi-layer cleaning device
C	End seal + side seal + metal scraper + multi-layer cleaning device	R	Double end seal + side seal + metal scraper + self-lubricating device + multi-layer cleaning device
F	Double End Seal + Side Seal + Metal Scraper + Multi-Layer Cleaning Device		

Note: Please consult Hengli personnel for the specific sealing type of the product.

Seal fitting resistance value

The following are the maximum resistance values for the seal fittings of a single slider. Please refer to the table below.

Seal fitting resistance value

Unit: N

Model and specification	Type of seal		
	End seal resistance value	Resistance of side seal (Max.)	Internal seal resistance value
HLX25	6max	5max	3max
HLX30	7max	5max	3max
HLX35	8max	6max	4max
HLX45	11max	7max	5max
HLX55	12max	8max	6max
HLX65	15max	9max	8max

Standard lubrication fittings

Model	Oil Cup		Oil pipe joint	
	Front	Side	Front	Side
HLX25	LGM6	SGM6	LOM6T8	SOM6T8 SOM6M8
HLX30			LOM6M8	
HLX35				
HLX45	LOM8T8			
HLX55	LGM8		LOM8M8	
HLX65				

Lubrication sealing amount of single slide block

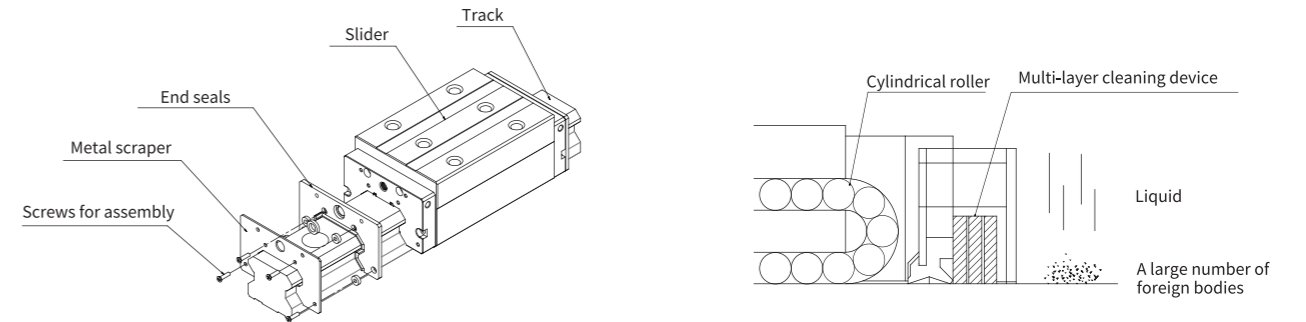
Unit: CC

Model and specification	Grease sealing amount of one slider
HLX25	0.9
HLX25L	1
HLX30	1.3
HLX30L	1.6
HLX35	2.3
HLX35L	2.8
HLX45	4.4
HLX45L	5.5
HLX55	6.6
HLX55L	8.5
HLX65	11.9
HLX65L	15.2

Multi-layer cleaning device, self-lubricating device

Multi-layer cleaning device

Multi-layer cleaning devices are also provided in places where the environment is harsh. Through the laminated contact structure (3-layer scraper), the tiny foreign matters attached to the rail can be removed by stages, and the foreign matters can be prevented from entering the slider.



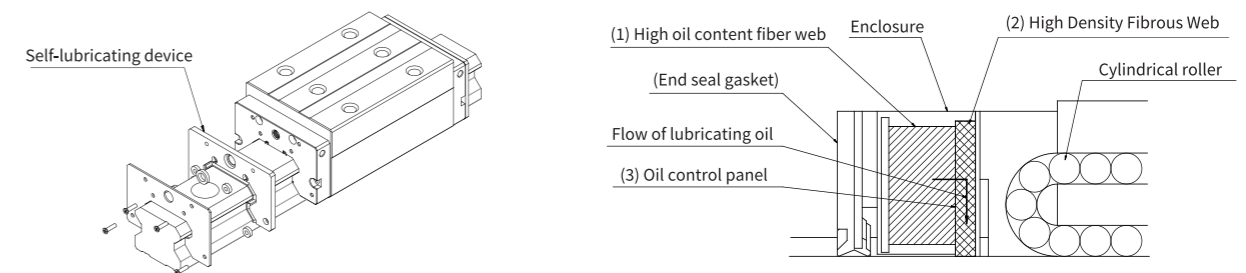
Specialty:

Excellent ability to remove tiny foreign objects due to the full contact of the 3 layers of shims with the rail; Low friction resistance is achieved due to the use of oil-impregnated foamed synthetic rubber with self-lubricating function.

White lubricating device

The self-lubricating device delivers a proper amount of lubricant to the rolling surface of the track, and an oil film is continuously formed between the rolling body and the rolling surface, so that the interval time of lubrication and maintenance can be greatly prolonged.

The structure of the self-lubricating device consists of three main parts: (1) a high oil content fiber web (function is to store lubricant); (2) a high density fiber web (function is to apply lubricant on the rolling surface); and (3) an oil control plate (function is to adjust the flow of oil). Lubricating oil in self-lubricating devices is transported using the basic principle of capillarity, which is also used in felt pens and many other products.



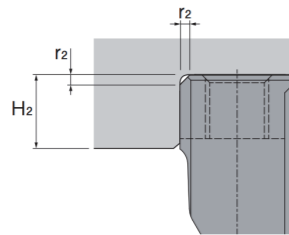
Specialty:

Since it replenishes the oil loss, the interval of lubrication maintenance can be greatly extended. Because it delivers a proper amount of lubricating oil to the rolling surface of the steel ball, it will not pollute the surrounding area, so it is an environmentally friendly lubricating system.

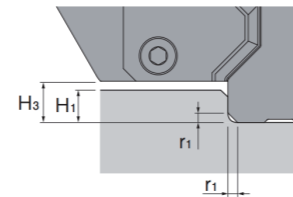
Mounting surface

Structural design reference for mounting surfaces

For the convenience of installation and high-precision positioning, a shoulder surface is usually provided on the side of the rail and the slider. Therefore, for the occasion with shoulder surface design, the design dimensions of the slider and rail shoulder surface will vary with different specifications. For details, please refer to the following. In addition, the sharp corner of the shoulder surface shall be designed as a structure with a process groove, or as a fillet with a small radius R to prevent interference with the chamfer of the rail or slider. The fillet radius R varies with different specifications. Please refer to the following table for details.



Slider shoulder surface design



Rail shoulder surface design

Shoulder height and fillet radius of the shoulder face

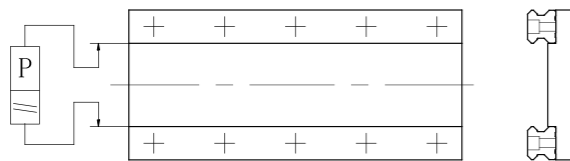
Unit: mm

Model and specification	Fillet radius		Shoulder height		H3
	Rail portion r_{1max}	Slider part r_{2max}	Track part H_{1max}	Slider part H_{2max}	
HLX25	1.0	1.0	4.0	5.0	5.0
HLX30	1.0	1.0	4.0	5.0	5.0
HLX35	1.0	1.0	5.5	6.0	6.5
HLX45	1.5	1.5	6.5	8.0	8.5
HLX55	1.5	1.5	9.0	10.0	11
HLX65	1.5	2.0	9.5	10.0	12

Allowable error value of mounting surface

Allowable value of parallelism error of axis 2

The installation surface error of the rolling guide may affect the service life. The following table shows the reference of the allowable value (P) of the 2-axis parallelism error for each model in normal use.

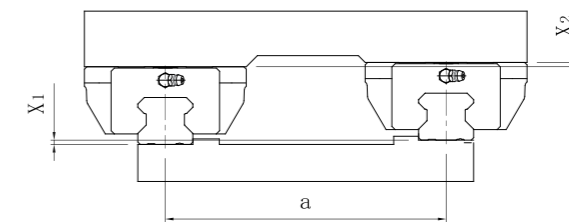


Model and specification	Heavy precompression(Z3)
HLX25	7
HLX30	8
HLX35	9
HLX45	11
HLX55	13
HLX65	17

Mounting surface

Allowable value of vertical direction error of axis 2

The installation surface error of the rolling guide may affect the service life. The values in the table represent the upper and lower error reference values (X) of the 2 axes for each track span (a) in normal use, proportional to the track span (a).



$$X = X_1 + X_2$$

X1: Level difference of rail installation surface

X2: Level difference of sliding block installation surface

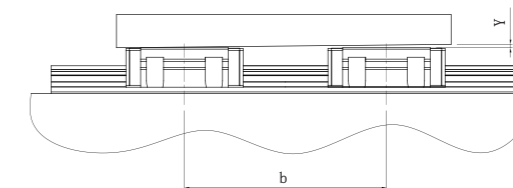
Calculation example Ordinary preloading
Track spacing a=500mm
Allowable error value of mounting surface $0.00036 \times 500 = 0.18$

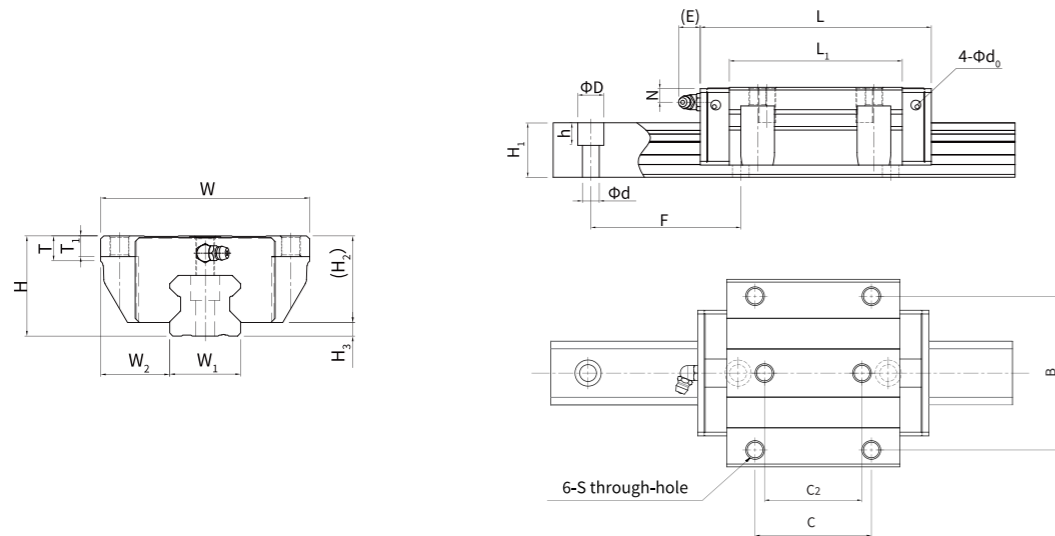
Model and specification	Heavy precompression(Z3)
HLX25	0.00014a
HLX30	
HLX35	
HLX45	
HLX55	
HLX65	

Allowable value of horizontal error in the axial direction

The values in the table represent the axial horizontal error tolerance (Y) for each slide span (B) and are proportional to the slide span (B).

Allowable value of mounting surface error (Y): $0.00004b$





Composition example of nominal model

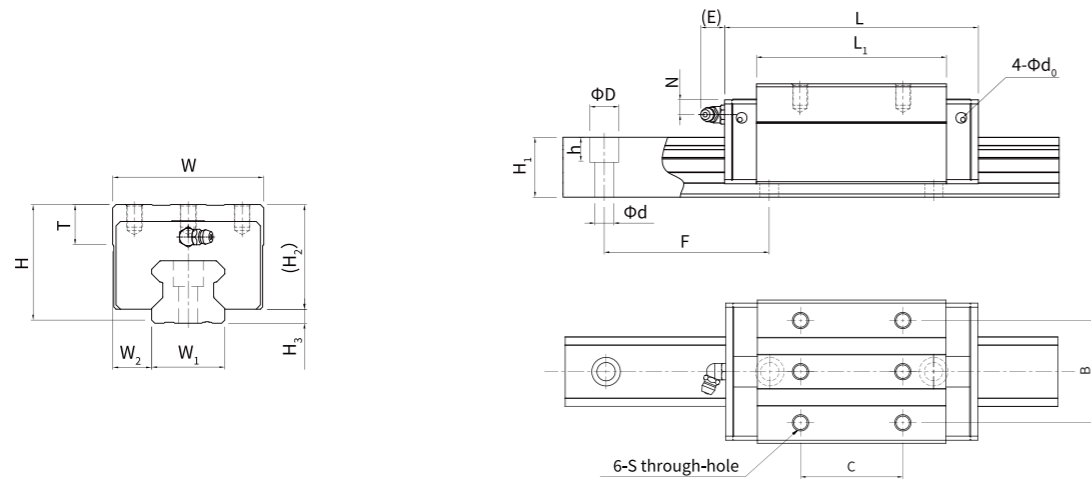
HLX 35 C 2 K Z3 - 1200 P II

Series Specification size Slider Number of sliders type Sealing fittings Type of preloading Guide rail length Accuracy class Number of same-plane orbital pairing

Unit: mm

Model	Overall dimensions					Slider size							Lubricate the connection dimensions				Guide rail dimensions				Basic load rating		Rated static torque kN · m					Weight		
	H	W ₂	W	L	H ₃	B	C	C ₂	Mounting hole S	L ₁	T	T ₁	H ₂	Oil cup	E	N	spare hole d ₀	φd×φD×h	F	H ₁	W1 0 -0.05	Dynamic load C kN	Static load C ₀ kN	M _A		M _B		M _C	Slider (kg)	Guide rail (kg/m)
																								Single slider	Double slide block abutting	Single slider	Double slide block abutting	Single slider		
HLX25C	36	23.5	70	99.7	5	57	45	40	M8	75.5	9.5	10	31	M6×0.75	12	5.5	5.2	7×11×9	60	21.5	23	27.0	74.7	0.939	4.942	0.939	4.942	0.582	0.84	3.25
HLX25LC				116.5						92.3														1.399	7.005	1.399	7.005	0.705		
HLX30C	42	31	90	110.7	5	72	52	44	M10	84.1	12	14	37	M6×0.75	12	8.2	5.2	9×14×12	80	23.5	28	40.4	107.0	1.511	7.883	1.511	7.883	1.052	1.48	4.42
HLX30LC				135.2						108.6														2.491	12.314	2.491	12.314	1.358		
HLX35C	48	33	100	123.3	6.5	82	62	52	M10	92.3	12	10	41.5	M6×0.75	12	8	5.2	9×14×12	80	29	34	57.4	153.3	2.379	11.834	2.379	11.834	1.848	1.93	6.33
HLX35LC				151.3						120.3														4.003	18.992	4.003	18.992	2.410		
HLX45C	60	37.5	120	150.8	8.5	100	80	60	M12	115.8	17.3	15	51.5	M8×1	16	8.75	5.2	14×20×17	105	38	45	96.6	255.5	4.949	24.389	4.949	24.389	3.919	3.51	10.9
HLX45LC				185.8						150.8														8.337	39.227	8.337	39.227	5.113		
HLX55C	70	43.5	140	180.3	11	116	95	70	M14	143.3	18.2	18	59	M8×1	16	11.2	5.2	16×23×20	120	44	53	137.8	377.3	9.038	43.193	9.038	43.193	6.998	5.85	15.6
HLX55LC				229.8						192.8														16.179	74.164	16.179	74.164	9.426		
HLX65C	90	53.5	170	239.2	12	142	110	82	M16	195.8	22.3	20	78	M8×1	16	18	5.2	18×26×22	150	53	63	210.5	578.3	18.796	88.207	18.796	88.207	12.514	13.34	22.6
HLX65LC				304.2						260.8														32.676	149.603	32.676	149.603	16.675		

Note: ① The total length L of the sliding block recorded in the dimension table is the dimension when the mark for dust prevention is S. If other accessories for dust protection or lubrication devices are installed, the total length L of the slide will be increased. ② The bottom hole for the oil cup on the returner side is not drilled through. If the oil cup needs to be processed and installed, please specify.



Composition example of nominal model

HLX 45 LR 2 P Z3 - 1200 P II

Series Specification size Slider Number type of sliders Sealing fittings Type of preloading Guide rail length Accuracy class Number of same-plane orbital pairing

Unit: mm

Model	Overall dimensions					Slider size							Lubricate the connection dimensions				Guide rail dimensions				Basic load rating		Rated static torque kN • m					Weight	
	H	W ₂	W	L	H ₃	B	C	Mounting hole s×l	L ₁	T	H ₂	Oil cup	E	N	spare hole d ₀	Φd×ΦD×h	F	H ₁	W ₁ 0 -0.05	Dynamic load C kN	Static load C ₀ kN	M _A		M _B		M _C	Slider (kg)	Guide rail (kg/m)	
	Single slider	Double slide block abutting	Single slider	Double slide block abutting	Single slider																								
HLX25R	40	12.5	48	99.7	5	35	35	M6×7	75.5	9	35	M6×0.75	12	9.5	5.2	7×11×9	60	21.5	23	27.0	74.7	0.939	4.942	0.939	4.942	0.582	0.72	3.25	
HLX25LR				116.5					92.3													50	1.399	7.005	1.399	7.005			0.705
HLX30R	45	16	60	110.7	5	40	40	M8×8	84.1	12	40	M6×0.75	12	11.2	5.2	9×14×12	80	23.5	28	40.4	107.0	1.511	7.883	1.511	7.883	1.052	1.16	4.42	
HLX30LR				135.2					108.6													60	2.491	12.314	2.491	12.314			1.358
HLX35R	55	18	70	123.3	6.5	50	50	M8×10	92.3	18.5	48.5	M6×0.75	12	15	5.2	9×14×12	80	29	34	57.4	153.3	2.379	11.834	2.379	11.834	1.848	1.73	6.33	
HLX35LR				151.3					120.3													72	4.003	18.992	4.003	18.992			2.410
HLX45R	70	20.5	86	150.8	8.5	60	60	M10×12.5	115.8	24.5	61.5	M8×1	16	18.75	5.2	14×20×17	105	38	45	96.6	255.5	4.949	24.389	4.949	24.389	3.919	3.20	10.9	
HLX45LR				185.8					150.8													80	8.337	39.227	8.337	39.227			5.113
HLX55R	80	23.5	100	180.3	11	75	75	M12×15	143.3	27.5	69	M8×1	16	21.2	5.2	16×23×20	120	44	53	137.8	377.3	9.038	43.193	9.038	43.193	6.998	5.31	15.6	
HLX55LR				229.8					192.8													95	16.179	74.164	16.179	74.164			9.426
HLX65R	100	31.5	126	239.2	12	76	70	M16×20	195.8	29.5	88	M8×1	16	28	5.2	18×26×22	150	53	63	210.5	578.3	18.796	88.207	18.796	88.207	12.514	12.06	22.6	
HLX65LR				304.2					260.8													120	32.676	149.603	32.676	149.603			16.675

Note: ① The total length L of the sliding block recorded in the dimension table is the dimension when the mark for dust prevention is S. If other accessories for dust protection or lubrication devices are installed, the total length L of the slide will be increased. ② The bottom hole for the oil cup on the returner side is not drilled through. If the oil cup needs to be processed and installed, please specify.

[Use]

- (1) When handling products with a weight of more than 20 kg, please handle them by more than two people or with the help of handling tools. Failure to do so may result in personal injury and product damage.
- (2) Do not disassemble the linear guide. Failure to do so may result in loss of product functionality.
- (3) When handling or placing, if the slider and rail are inclined, they may fall down due to their own weight, please pay attention.
- (4) Please prevent the guide rail from falling or being knocked. Otherwise, it may cause personal injury and product damage. In addition, when impacted, even if the appearance of the product is intact, it is possible that the interior of the product has been damaged and the function has been lost.
- (5) Please note that if you put your hand into the rail mounting hole, it may be caught between the mounting hole and the slider, causing injury.
- (6) When touching the product, please use protective gloves, safety shoes and other protective equipment as required to ensure safety.

[Precautions for use]

- (1) Please pay attention to prevent foreign matters such as chips and coolant from being mixed. Failure to do so may result in product damage.
- (2) When the product is used in an environment where chips, coolant, corrosive solvent, water, etc. may be mixed inside, please use a telescopic shield or a protective cover to reduce or prevent them from mixing inside the product, thus affecting the function of the product.
- (3) Please avoid using it under the condition of exceeding the temperature. If the temperature exceeds the temperature, it may cause deformation or damage to resin and rubber parts.
- (4) When foreign matters such as chips are attached, please seal the lubricant again after cleaning.
- (5) During micro stroke, it is difficult to form an oil film on the contact surface between the rolling raceway and the rolling element, which may cause fretting wear. Please use grease with excellent fretting wear resistance. In addition, it is recommended to push the slider back and forth for several times within the stroke of about five times the total length of the slider each time the grease is replenished, so that the grease is evenly distributed inside the slider and an oil film is formed between the rolling channel and the rolling body.
- (6) Do not force the positioning parts (pins, keys, etc.) into the product. Failure to do so may result in indentation of the rolling surface, resulting in loss of function.
- (7) When the slider must be removed from the rail during the operation, please use the special clamp for disassembly/assembly. (The special fixture for disassembly/installation is not a standard part. Please consult Hengli's relevant personnel when it is needed.)
- (8) When using the dismounting/mounting fixture, the end face of the rail shall be close to the end face of the dismounting/mounting fixture. Please insert the rail in parallel with the dismounting/mounting fixture.
- (9) If the slider is installed in an inclined state, foreign matters may enter, resulting in damage to internal components and falling of rolling elements.
- (10) If the sliding block is inserted into the track for use when the rolling element falls off, the product may be damaged prematurely.
- (11) If the rolling element falls from the slider, please do not continue to use this product, and contact the relevant personnel of Hengli Precision.
- (12) When the guide rail is damaged due to accidents, the sliding block may fall off from the track. For the sake of safety, please take countermeasures such as shutdown immediately.
- (13) When the rigidity and accuracy of the installation components are insufficient, the product will be subject to internal forces, which will significantly reduce the performance of the product. Therefore, please fully discuss the rigidity and accuracy of the mounting structure.
- (14) When the slider is disassembled from the rail and reassembled, the assembly will be easier if the slider mounting/dismounting jig is used. For details, please consult the relevant personnel of Hengli Precision.

[Lubrication]

- (1) Please wipe the anti-rust oil carefully and seal the lubricant before use.
- (2) Avoid mixing different lubricants. Even if a grease with the same thickener is used, there may be adverse effects on each other due to differences in additives and the like.
- (3) When it is used in special environments such as places where vibration often occurs, dust-free rooms, vacuum, low temperature or high temperature, please use grease that conforms to the environment.
- (4) When lubricating the product without oil nozzle and oil hole, please apply the lubricant directly to the rolling surface, and make the grease enter the product after several times of running-in with the stroke length as the unit.
- (5) The consistency of grease varies with temperature. Please note that the sliding resistance of the rolling guide varies with the consistency.
- (6) The mixing resistance of grease after greasing may increase the sliding resistance of the guide rail. Be sure to run in and fully pre-lubricate with grease before running the machine.
- (7) After the completion of greasing, the excess grease may splash around, please wipe it as required.
- (8) With the increase of service time, the properties of lubricating grease are deteriorated and the lubricating performance is reduced, so it is necessary to check and supplement the lubricating grease according to the frequency of use.
- (9) The fatliquoring interval is different according to different service conditions and environments. Please fatliquorate every 100km (2 ~ 3 months). Please set the final fatliquoring interval and fatliquoring amount on the actual equipment.
- (10) When the installation method is other than horizontal installation, the lubricating oil may not reach the sliding block and the inside of the guide rail when oil lubrication is used. For details, please consult the relevant personnel of Hengli Precision in advance.

[Storage and disposal]

- (1) When storing the guide rail, please keep the factory packaging and state of Hengli Precision, store it horizontally indoors, and avoid high temperature, low temperature and high humidity environment.
- (2) The lubricant inside the product stored for a long time may deteriorate with time. Please add the lubricant again before use.
- (3) Please dispose of the product properly as industrial waste.



Stock code:601100

Contact us,looking forward to work with you!

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