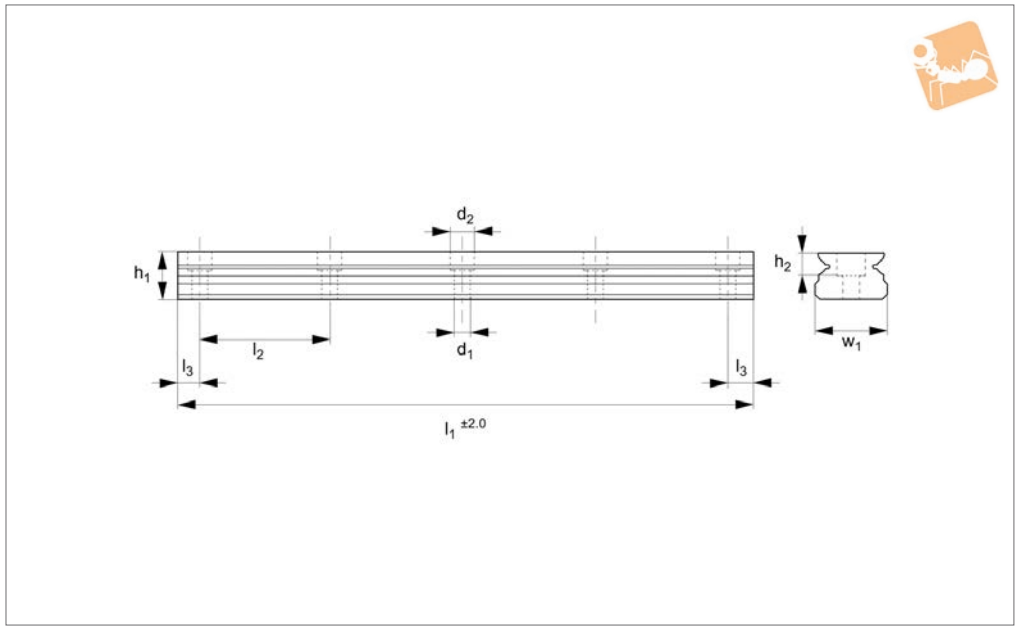


L1010.12

Material
Corrosion resistant stainless steel, hardened (similar to 440C).

Technical Notes
Select the size and number of carriages to suit the required load (see part L1010.C).

Other rail lengths on request.
Weight: 0,60 Kg/m.

Order No.	l_1	l_2	l_3	h_1	h_2	d_1	d_2	For screws	w_1	Weight kg
L1010.12-0070	70	25	10	7.5	4.5	3.5	6	M3	12	42
L1010.12-0095	95	25	10	7.5	4.5	3.5	6	M3	12	57
L1010.12-0120	120	25	10	7.5	4.5	3.5	6	M3	12	72
L1010.12-0145	145	25	10	7.5	4.5	3.5	6	M3	12	87
L1010.12-0170	170	25	10	7.5	4.5	3.5	6	M3	12	102
L1010.12-0195	195	25	10	7.5	4.5	3.5	6	M3	12	117
L1010.12-0220	220	25	10	7.5	4.5	3.5	6	M3	12	132
L1010.12-0245	245	25	10	7.5	4.5	3.5	6	M3	12	147
L1010.12-0270	270	25	10	7.5	4.5	3.5	6	M3	12	162
L1010.12-0295	295	25	10	7.5	4.5	3.5	6	M3	12	177
L1010.12-0320	320	25	10	7.5	4.5	3.5	6	M3	12	192
L1010.12-0345	345	25	10	7.5	4.5	3.5	6	M3	12	207
L1010.12-0370	370	25	10	7.5	4.5	3.5	6	M3	12	222
L1010.12-0395	395	25	10	7.5	4.5	3.5	6	M3	12	237
L1010.12-0420	420	25	10	7.5	4.5	3.5	6	M3	12	252
L1010.12-0445	445	25	10	7.5	4.5	3.5	6	M3	12	267
L1010.12-0470	470	25	10	7.5	4.5	3.5	6	M3	12	282
L1010.12-0495	495	25	10	7.5	4.5	3.5	6	M3	12	297
L1010.12-0520	520	25	10	7.5	4.5	3.5	6	M3	12	312
L1010.12-0545	545	25	10	7.5	4.5	3.5	6	M3	12	327
L1010.12-0570	570	25	10	7.5	4.5	3.5	6	M3	12	342
L1010.12-0595	595	25	10	7.5	4.5	3.5	6	M3	12	357
L1010.12-0620	620	25	10	7.5	4.5	3.5	6	M3	12	372
L1010.12-0645	645	25	10	7.5	4.5	3.5	6	M3	12	387
L1010.12-0670	670	25	10	7.5	4.5	3.5	6	M3	12	402
L1010.12-0695	695	25	10	7.5	4.5	3.5	6	M3	12	417
L1010.12-0720	720	25	10	7.5	4.5	3.5	6	M3	12	432
L1010.12-0745	745	25	10	7.5	4.5	3.5	6	M3	12	447
L1010.12-0770	770	25	10	7.5	4.5	3.5	6	M3	12	462
L1010.12-0795	795	25	10	7.5	4.5	3.5	6	M3	12	477
L1010.12-0820	820	25	10	7.5	4.5	3.5	6	M3	12	492
L1010.12-0845	845	25	10	7.5	4.5	3.5	6	M3	12	507
L1010.12-0870	870	25	10	7.5	4.5	3.5	6	M3	12	522
L1010.12-0895	895	25	10	7.5	4.5	3.5	6	M3	12	537

12mm Miniature Linear Rail

standard width

Order No.	l_1	l_2	l_3	h_1	h_2	d_1	d_2	For screws	w_1	Weight kg
L1010.12-0920	920	25	10	7.5	4.5	3.5	6	M3	12	552
L1010.12-0945	945	25	10	7.5	4.5	3.5	6	M3	12	567
L1010.12-0970	970	25	10	7.5	4.5	3.5	6	M3	12	582
L1010.12-0995	995	25	10	7.5	4.5	3.5	6	M3	12	597

Miniature linear guideway systems are widely used throughout industry for precise, compact applications.

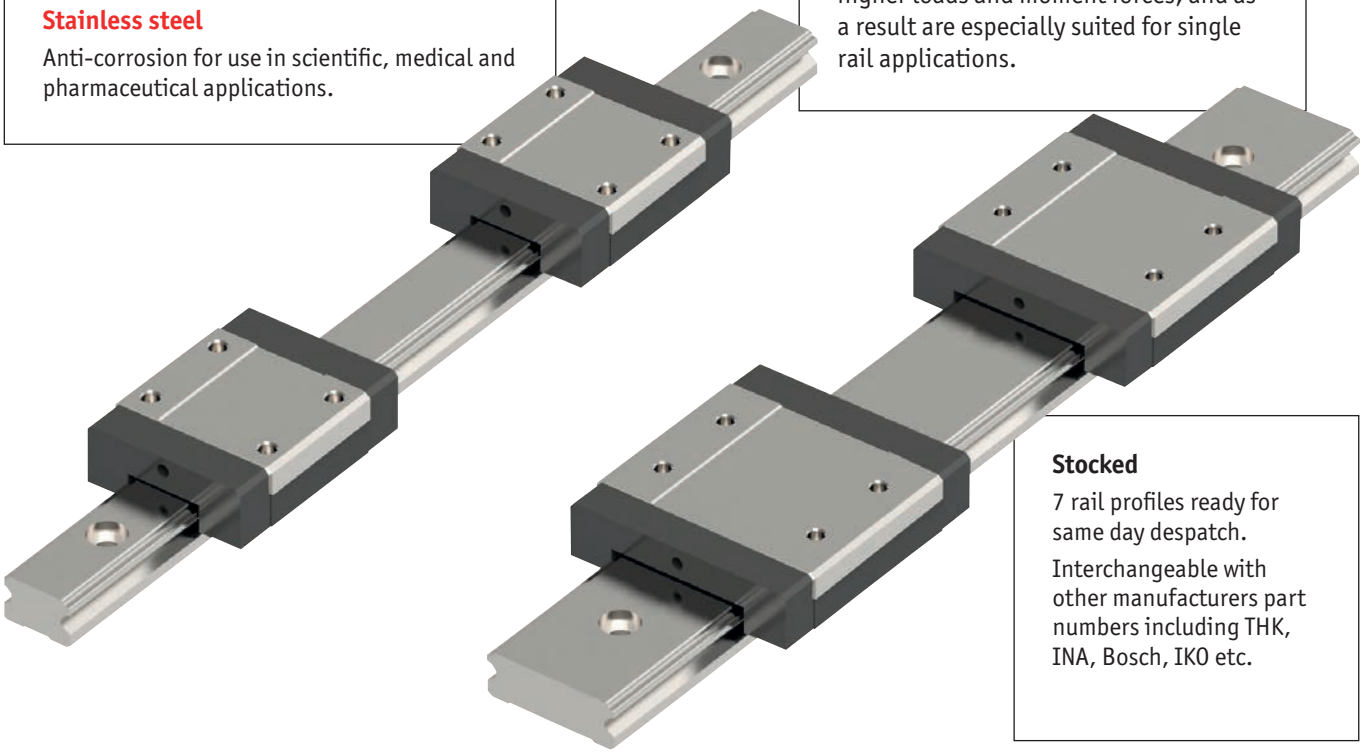
Precise and stainless

The gothic arch shape of the rails have a 45° contact ensuring similar load capacities in all directions. Use of a large number of stainless steel balls enables a high moment and load capacity within a compact space. These smooth running rails have low break-away forces and a low coefficient of friction.

Stainless steel
Anti-corrosion for use in scientific, medical and pharmaceutical applications.

Standard and wide versions
Our standard width is a compact, high performance rail in six sizes.

The wide version can generally accept higher loads and moment forces, and as a result are especially suited for single rail applications.

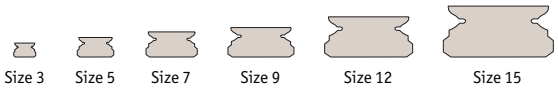


Stocked
7 rail profiles ready for same day despatch.

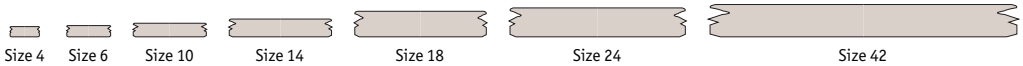
Interchangeable with other manufacturers part numbers including THK, INA, Bosch, IKO etc.

Rail sizes

L1010 Standard Version



L1012 Wide Version



Miniature Linear Guideways

FAQs

Load capacities – explained

- A number of load figures are stated for load capacity:

  Dynamic loads – this is the main figure considered for miniature linear guideways. It is the moving load that the system can bear. It takes account of the total moving load as well as considerations such as impact, vibration and fatigue.

  Static loads – this is a load that is constant for an extended time (i.e. the dead load the system can bear before any movement). It can be in tension or compression.

  For these miniature linear guideways the radial and axial load capacities are the same.

  Moment loads are twisting loads generated by offset loads in either X, Y or Z planes. Moment loads can be reduced by adding further carriages or rails to reduce any twisting of the carriage due to the load offset.

Why is there a standard width and a wide version rail?

- The wider version system is generally used as a single rail system as it can accept higher loads and moment loads, whilst maintaining a very low height.
- The standard width rail can be used either as stand-alone rails or are more frequently used as a pair of rails in parallel.

Straightness of rails

- The measurements of the straightness of the system are taken from the running accuracy of the sliders over the length of the rails (given in microns) – see accuracy and preload page. For standard accuracy this equates to around 15µ for a 300mm length, increasing to 25µ for a 1 metre length.

What lengths can be provided?

- We have standard rail lengths. These are based on the hole pitch of the rails and end machining to provide an equidistant length to the first and last hole centre.
- However we can cut the rail (from stock) to any length required – we just need to know the distance required for the first hole.
- In general our cutting procedures allow for a ±2mm accuracy on the overall rail length. If greater accuracy than this is required then we have to machine the end accurately (rather than cut it) and this involves extra time and cost.
- Standard maximum length for each rail size is around 1 metre. Rails can be joined together but the preparation needs to be made in our workshop. The rails will be marked clearly with the ends to be placed adjacent to each other.

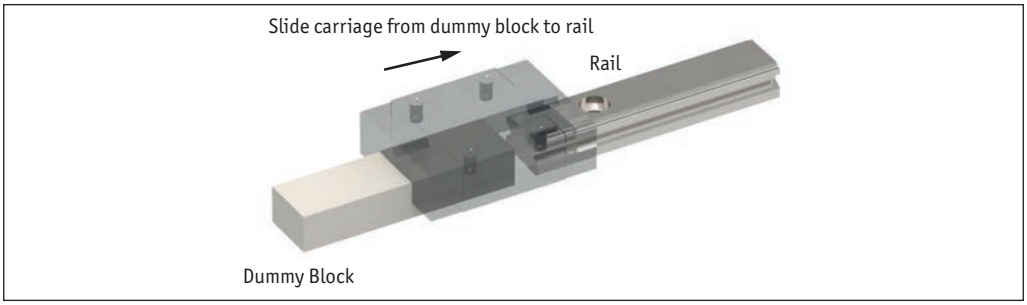
Installation

- The miniature linear guideways are very accurate and as a result need to be installed on accurately prepared surfaces - please see installation instructions. If two rails are installed in parallel, they need to be precisely aligned - see assembly precision page.

Mounting the carriages to the rails

- In general the carriages will be supplied separately to the rails. The carriages are supplied mounted on plastic “dummy” blocks. To install the carriage onto the rails, offer the carriage (still on its dummy block) up to the rails and slide off the dummy block and onto the rail itself.

  Do not simply remove the carriage from the dummy block, as some of the bearings might become displaced, rendering the carriage unusable.



Precision

	Dimensions	µ
h_1	Height tolerance h_1	±40
h_1	Permissible height difference of different carriages at the same position on the rail	25
W_4	Width tolerance w_4	±40
W_4	Permissible width difference of different carriages at the same position on the rail	30

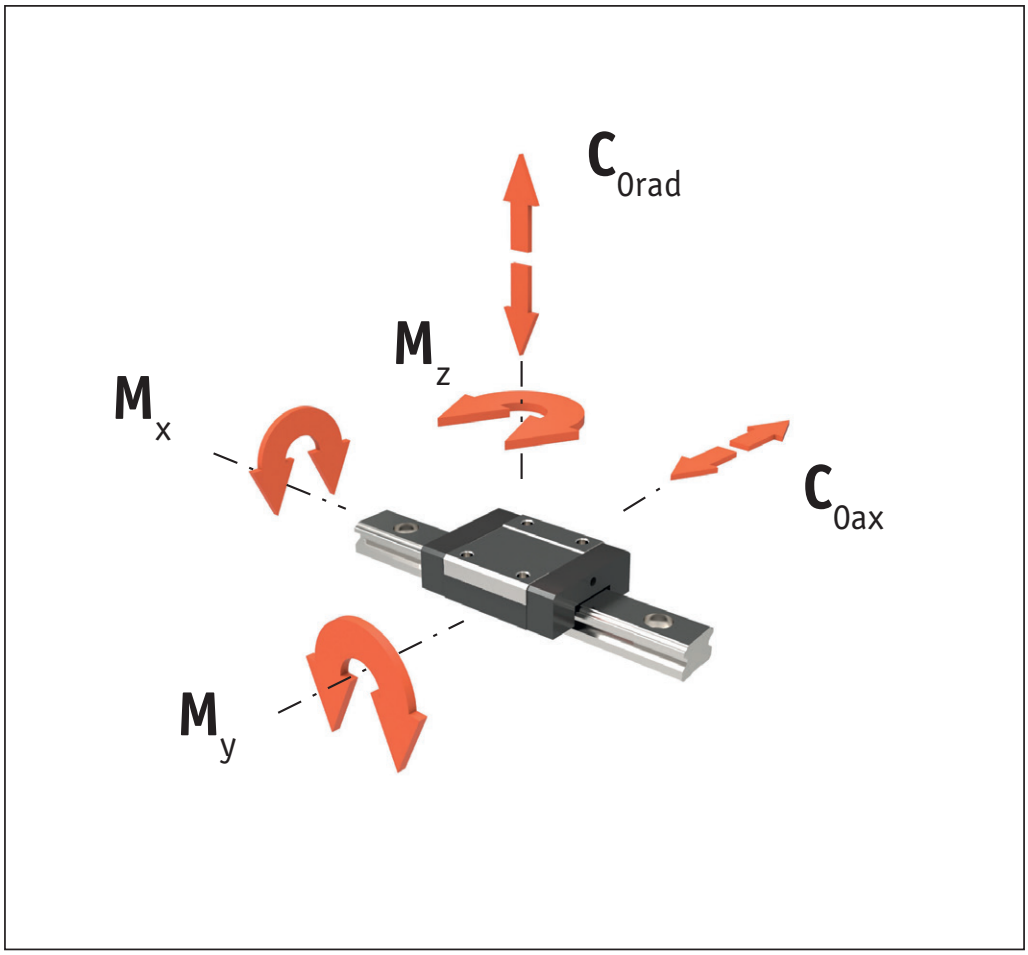
Running accuracy

Preload

The miniature linear guideways are available in the two different preload classes K_0 and K_S. The preload influences the rigidity, precision and torque resistance as well as offering the product service life and displacement force. The standard preload is K_0.

Type	Preload classes	
	Small K_0	Standard K_s
	Very quiet running (µ)	Quiet and precise running (µ)
L1010.03 & L1012.06	+3 to 0	+1 to 0
L1010.05 & L1012.10	+3 to 0	+1 to 0
L1010.07 & L1012.14	+4 to 0	+2 to 0
L1010.09 & L1012.18	+4 to 0	+2 to 0
L1010.12 & L1012.24	+5 to 0	+2 to 0
L1010.15 & L1012.42	+6 to 0	+3 to 0

L1010 - Standard width



Type	Max. load capacities		Max. static moment loads		
	dyn. C_{rad} & C_{ax} N	stat. C_{0rad} & C_{0ax} N	M_x Nm	M_y Nm	M_z Nm
L1010.C03	190	310	0,6	0,4	0,4
L1010.C03L	295	575	0,9	1,1	1,1
L1010.C05	335	550	1,7	1,0	1,0
L1010.C05L	470	900	2,4	2,1	2,1
L1010.C07	890	1400	5,2	3,3	3,3
L1010.C07L	1310	2440	9,0	7,7	7,7
L1010.C09	1570	2495	11,7	6,4	6,4
L1010.C09L	2135	3880	18,2	12,4	12,4s
L1010.C12	2308	3465	21,5	12,9	12,9
L1010.C12L	3240	5630	34,9	30,2	30,2
L1010.C15	3810	5590	43,6	27,0	27,0
L1010.C15L	5350	9080	70,0	63,0	63,0