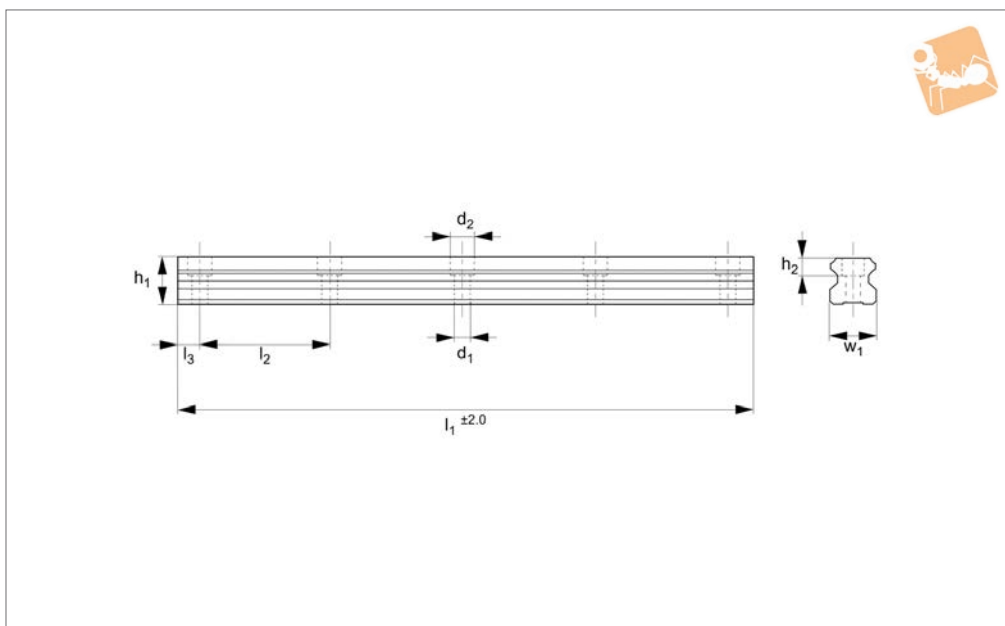




55mm Linear Guide Rail

standard

Linear Guide-ways



L1016.55

LINEAR GUIDEWAYS

Material

Hardened and ground steel (typically 60 HRC).

part nos. L1016.F (flanged) and L1016.U (unflanged).

Other rail lengths on request.

Weight: 14,5 Kg/m.

Tips

Plastic screw covers issued with the rails to protect the holes from debris.

Technical Notes

For carriages to suit the required load see

Order No.	Rail size	l_1	h_1	l_2	w_1	l_3	h_2	d_1	d_2	For screws	Weight kg
L1016.55-0300	55	300	38.0	120	53	30	20	16	23	M14	4.35
L1016.55-0420	55	420	38.0	120	53	30	20	16	23	M14	6.09
L1016.55-0540	55	540	38.0	120	53	30	20	16	23	M14	7.83
L1016.55-0660	55	660	38.0	120	53	30	20	16	23	M14	9.57
L1016.55-0780	55	780	38.0	120	53	30	20	16	23	M14	11.31
L1016.55-0900	55	900	38.0	120	53	30	20	16	23	M14	13.05
L1016.55-1020	55	1020	38.0	120	53	30	20	16	23	M14	14.79
L1016.55-1140	55	1140	38.0	120	53	30	20	16	23	M14	16.53
L1016.55-1260	55	1260	38.0	120	53	30	20	16	23	M14	18.27
L1016.55-1380	55	1380	38.0	120	53	30	20	16	23	M14	20.01
L1016.55-1500	55	1500	38.0	120	53	30	20	16	23	M14	21.75
L1016.55-1620	55	1620	38.0	120	53	30	20	16	23	M14	23.49
L1016.55-1740	55	1740	38.0	120	53	30	20	16	23	M14	25.23
L1016.55-1860	55	1860	38.0	120	53	30	20	16	23	M14	26.97
L1016.55-1980	55	1980	38.0	120	53	30	20	16	23	M14	28.71
L1016.55-2100	55	2100	38.0	120	53	30	20	16	23	M14	30.45
L1016.55-2220	55	2220	38.0	120	53	30	20	16	23	M14	32.19
L1016.55-2340	55	2340	38.0	120	53	30	20	16	23	M14	33.93
L1016.55-2460	55	2460	38.0	120	53	30	20	16	23	M14	35.67
L1016.55-2580	55	2580	38.0	120	53	30	20	16	23	M14	37.41
L1016.55-2700	55	2700	38.0	120	53	30	20	16	23	M14	39.15
L1016.55-2820	55	2820	38.0	120	53	30	20	16	23	M14	40.89
L1016.55-2940	55	2940	38.0	120	53	30	20	16	23	M14	42.63
L1016.55-3060	55	3060	38.0	120	53	30	20	16	23	M14	44.37
L1016.55-3180	55	3180	38.0	120	53	30	20	16	23	M14	46.11
L1016.55-3300	55	3300	38.0	120	53	30	20	16	23	M14	47.85
L1016.55-3420	55	3420	38.0	120	53	30	20	16	23	M14	49.59
L1016.55-3540	55	3540	38.0	120	53	30	20	16	23	M14	51.33
L1016.55-3660	55	3660	38.0	120	53	30	20	16	23	M14	53.07
L1016.55-3780	55	3780	38.0	120	53	30	20	16	23	M14	54.81
L1016.55-3900	55	3900	38.0	120	53	30	20	16	23	M14	56.55
L1016.55-4000	55	4000	38.0	120	53	30	20	16	23	M14	58.00



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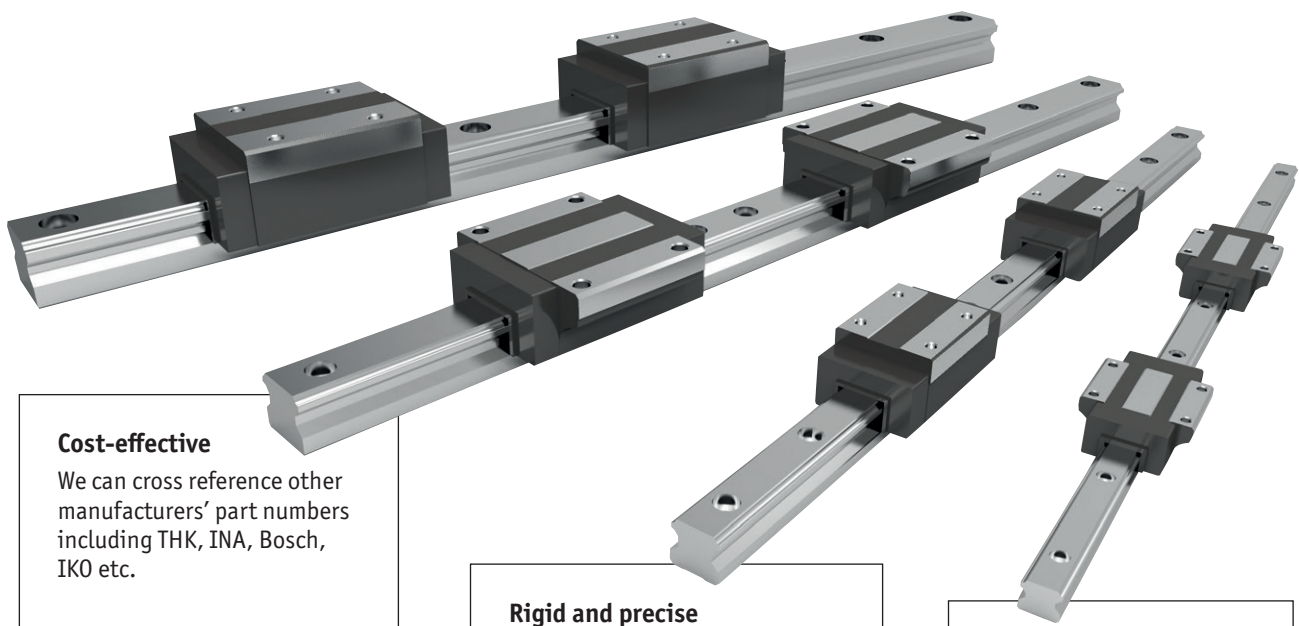


L1016 Linear guideways

Linear guideways are widely used throughout industry for heavy-duty and precise applications.

Precision high load rails

The use of steel balls and the design of the carriages and guideways mean that the rails can accept very heavy loads and significant moment loads. Our rails have circular as opposed to friction coefficient, lower driving resistance, lower wear and lower energy consumption.



Cost-effective

We can cross reference other manufacturers' part numbers including THK, INA, Bosch, IKO etc.

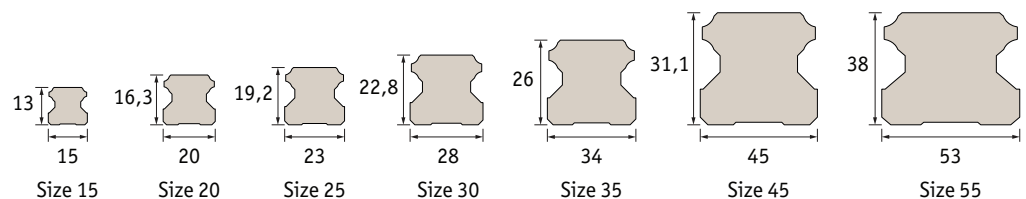
Rigid and precise

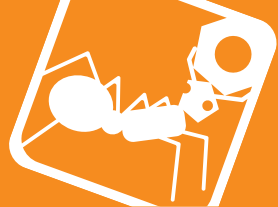
- High load rating.
- High moment load capacity.

Stocked

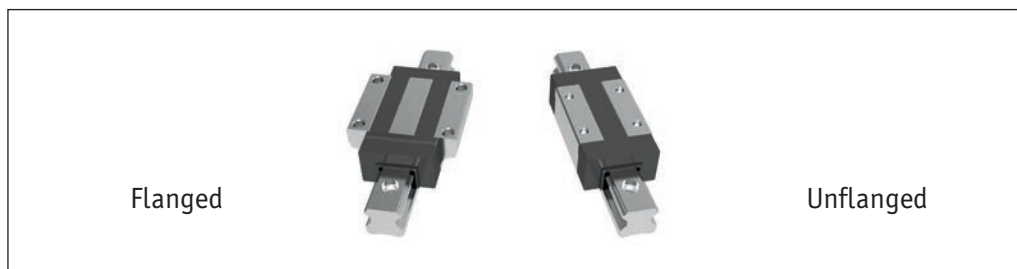
7 rail profiles ready for same day despatch.
Lengths up to 4 metres.

Rail sizes

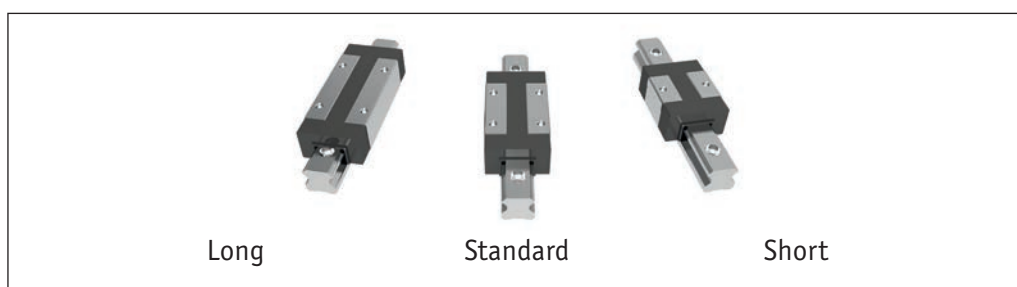




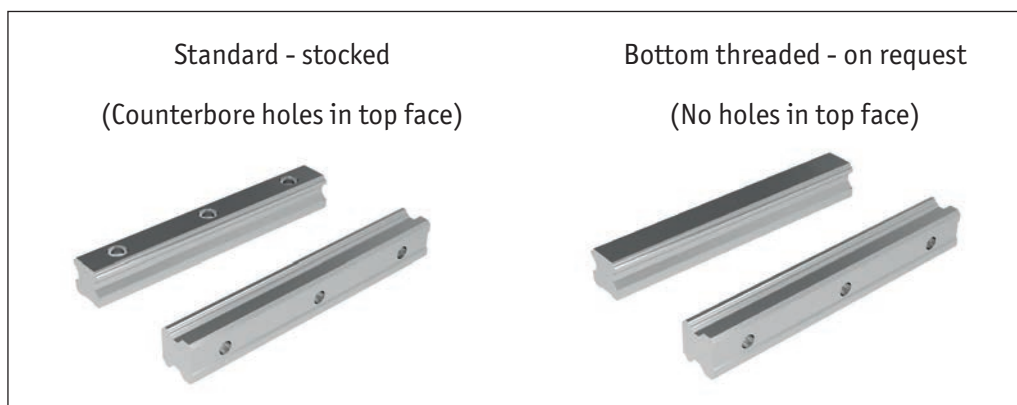
• Carriage types



Carriage lengths



Rail types

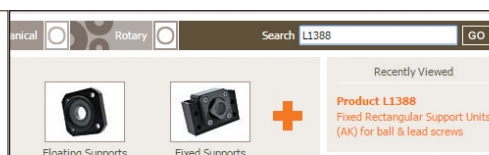


CAD - Download in 3 easy steps

Most of our products are available to download directly from our website. Get the CAD you need for your application in minutes, no registration required.

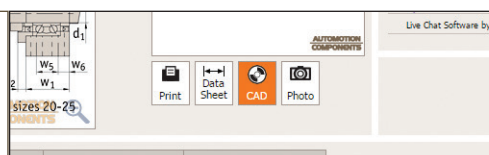
Step 1: find the part you need

Find the part or enter the Automation part number into the search bar.



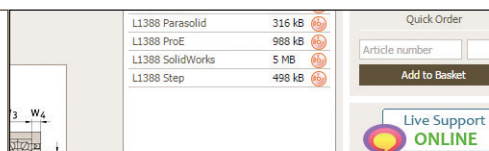
Step 2: Choose the CAD option

Click on the CAD button below the product window to the right of the drawing.



Step 3: Download your format

Choose the the format you require, and download it to your computer.





Load capacities – explained

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

Dynamic Load – this is the main figure considered for 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 Load – 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 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.

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 system precision page.
- For standard accuracy this equates to around 20 microns for a metre length, increasing to 35 microns for a 4 metre length.

What lengths can be provided?

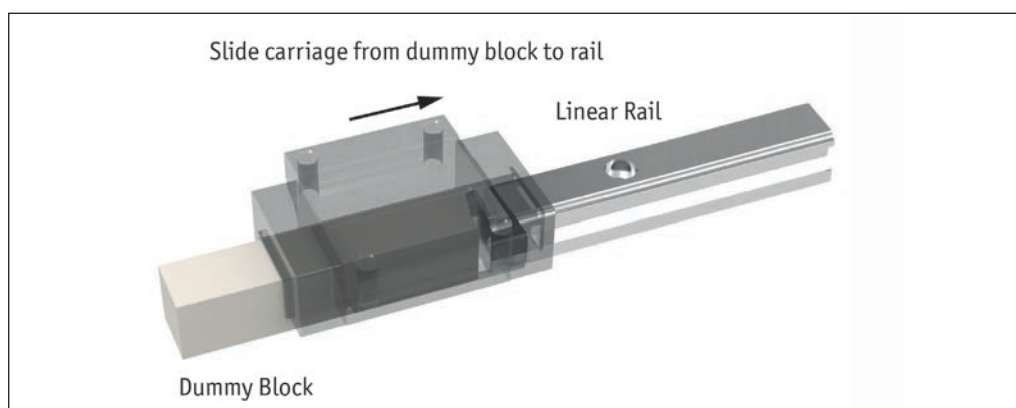
- We have standard rail lengths. These are based on the hole pitch of the rails and end machining to provide an equidistant length to the first and last hole centre.
- However we can cut the rail (from stock) to any length required – we just need to know the distance required to the first hole.
- In general our cutting procedures allow for a $\pm 2\text{mm}$ 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 4 metres. 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 linear guideways are very accurate and as a result need to be installed on accurately prepared surfaces – please see installation instructions. If the two rails are installed parallel to each other, they need to be accurately aligned – see assembly precision page.
- If you are not able to prepare the surface as accurately as required you might want to consider using our Compact Rail system, as this has a master rail (T rail) and a slave rail (U rail) that allows for structural inaccuracies.

Mounting the carriages to the rails

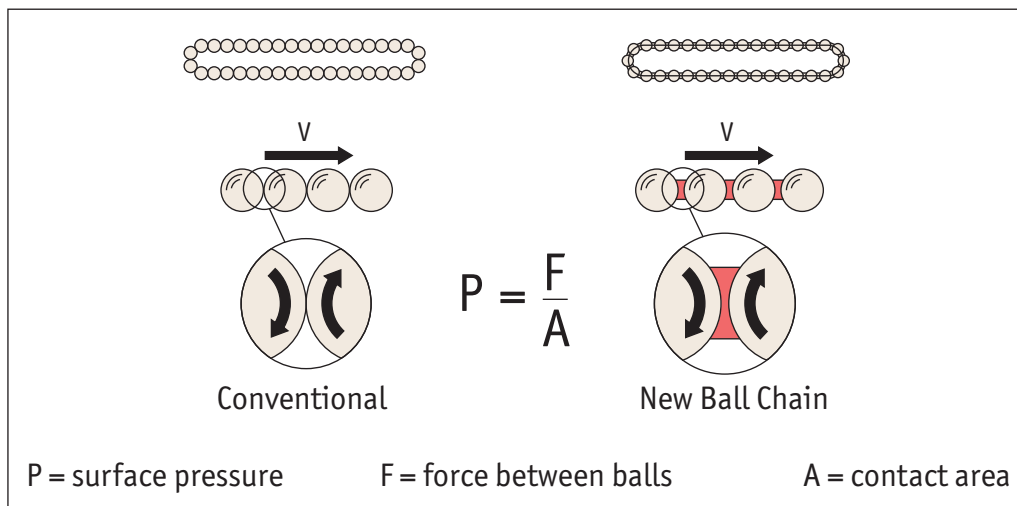
- In general the carriages will be supplied separately to the rails. To install the carriage onto the rails, offer the carriage up to the rails and slide it onto the rail itself.



New ball chain technology

Our new and improved linear guideway systems include the latest “ball chain” technology with the following benefits:

- Higher maximum velocity.
- Lower heat generation
- Lower noise generation.
- Very smooth running.
- Optimised lubrication system
- Even load distribution
- Longer service life



The rotating balls in conventional profile rail guides have point contact between each other. The rotation speed at the contact point is double the speed of the balls. The contact area (A) is so small that the surface pressure (P) tends towards infinity. This leads to heating and wear of the balls and the linear guide system.

The chain system in our new linear guides have a relatively large contact area (A), this significantly reduces the surface area pressure (P). The rotation speeds at the contact surfaces of ball and chain are the same. The ball chain is used to transport the lubricant and to create a lubrication film on the balls. The design of the carriage allows effective supply of lubricant from the lubricant connection to the circulation areas of the ball chains.

This design of the of the ball chain ends in connection with the spacer ball closes the circulation and makes the movement of the carriage smooth and quiet.

