



Product overview

Automation aluminium profile rails and ball bearing runner blocks are designed especially for all sorts of linear movements and are therefore suitable for use in most type of applications.

The rails consist of profiled aluminium, having two pressed-in hardened stainless steel shafts serving as the raceways for the balls of the runner blocks. Advantages are the light-weight and corrosive resistant materials. Fixing holes in the attachment surfaces enable machine parts to be directly mounted onto the runner blocks.

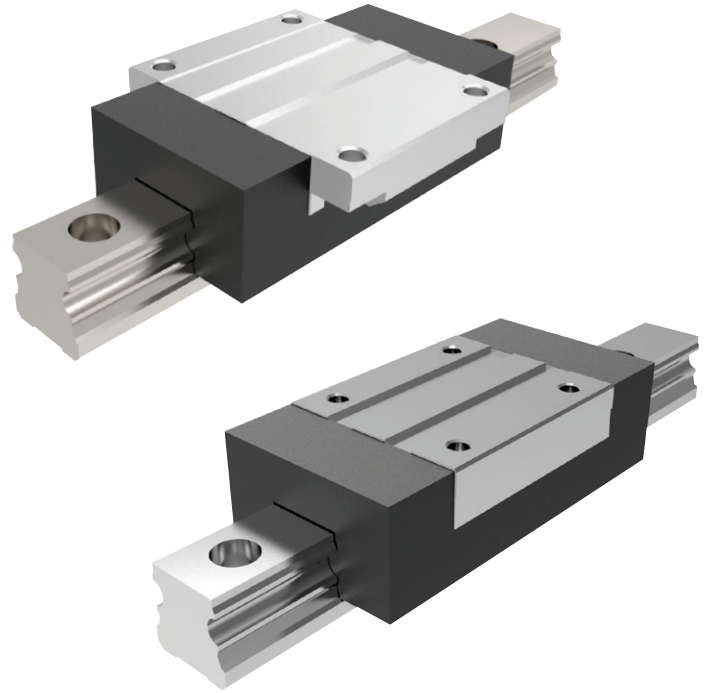
With this combination, it is possible for us to offer a guide system, which achieves a good price/performance ratio.

Product range:

- There are two versions of our carriages: flanged and unflanged.
- There are two accuracies for our carriages: standard precision (0) and a high precision called "P" (available on request).
- The standard carriage is not pre-loaded.
- The dynamic load rating (C in the data tables) is based on a service life of 100 Km.

Advantages:

- Compact, light-weight design with a weight saving of 60% compared to steel versions.
- Same fixing hole dimensions as steel, ball linear guideway systems.
- Much greater parallelism and height offsets of mounting bases possible, providing a degree of misalignment.
- Performs well in aggressive environments (dust, shavings etc.).
- Significantly better corrosion resistance compared to steel versions.
- Carriages initially greased in-factory, therefore provided with long-term lubrication.
- Due to ball retainers in the carriages, carriages can be removed from the rail without any loss of balls.
- Complete interchangeability between other manufacturers steel rail systems.
- Both sides of rail are reference edges. The carriages have one reference edge, which can be verified by turning it on the rail.



Application range:

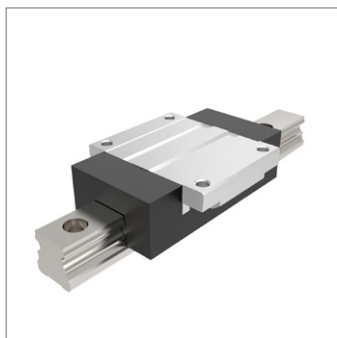
Speed	$v_{max} = 2 \text{ m/s}$
Acceleration	$a_{max} = 30 \text{ m/s}^2$
Temperature	$T = 0^\circ - 60^\circ\text{C}$

Applications:

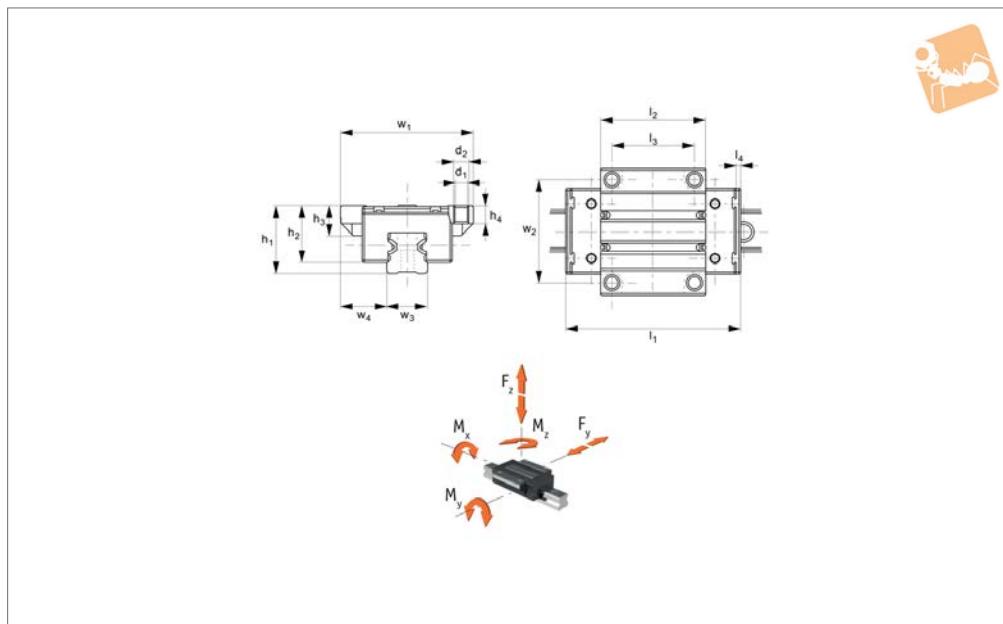
Our rails can be used in a broad range of applications - especially in light machinery, handling technology, jigs and fixtures, assembly technology, manual displacement systems, machine enclosures, door - and window technology, display systems, aerospace, medical, food and many more.

Our aluminium rail guides cannot be used in the following applications:

- Main axis of a CNC or tooling machine.
- Aggressive and dusty environments.
- Oscillating conveyor systems.
- Danger of life or physical systems (for example unsecured overhead installation).



L1018.F



Material

Aluminium block (X46Cr13 hardened to F35), tensile strength 350N/mm².
Stainless steel inserts hardened, and stainless ball bearings (DIN 1.4034).

Technical Notes

Compact, light-weight design. 60% saving versus steel versions.
Select the size and number of carriages to suit the required load then select the

required rail length, (see rail part nos. L1018). Standard carriages are not preloaded.
Mounting dimensions are identical to those of most steel linear guide rails, making them interchangeable.

Tips

These are aluminium rail carriages and can only be used with corresponding aluminium linear rails L1018. For stan-

ard steel linear guideways and carriages see part no. L1016.

Important Notes

Static loads ratings are difficult to calculate clearly due to the combination of materials. Do not exceed F_{max} or maximum static moment load rating. See load calculations on technical pages.

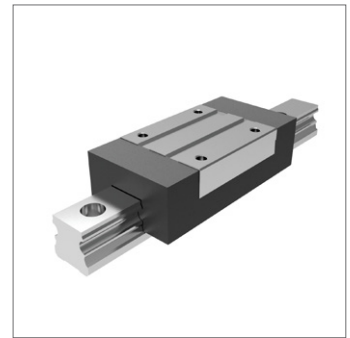
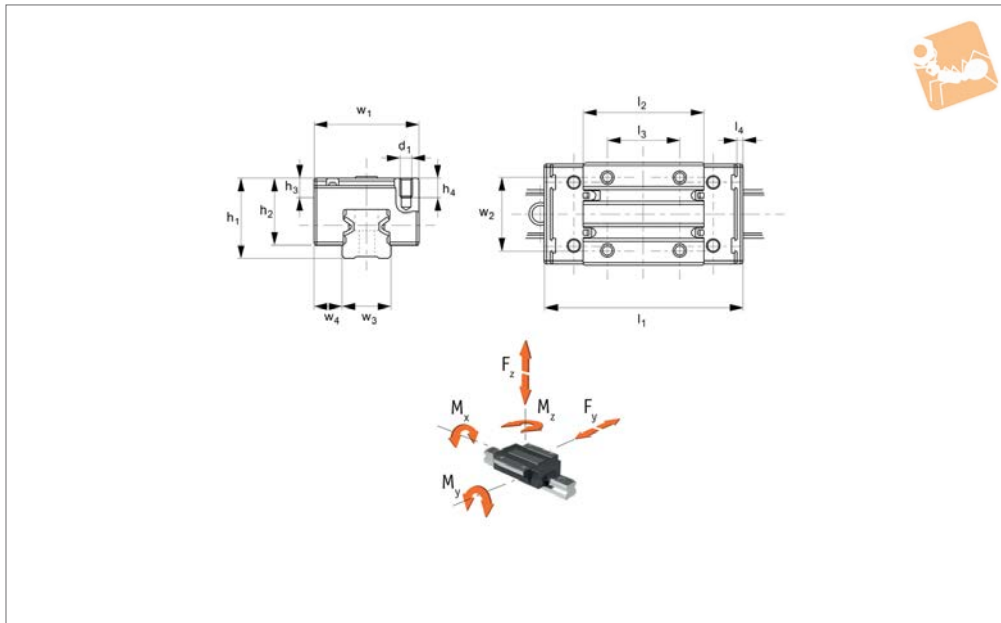
Order No.	Rail size	l_1	w_1	h_1 ± 0.03	d_1	d_2	h_2	h_3	h_4	l_2	l_3	l_4	w_2	Weight kg
L1018.F15	15	64.0	47	24	4.3	M5	19.8	11	6.0	37.8	30	2.5	38	0.08
L1018.F20	20	85.9	63	30	5.3	M6	24.7	13	8.0	51.5	40	2.8	53	0.18
L1018.F25	25	96.0	70	36	6.7	M8	29.9	17	9.3	58.0	45	3.0	57	0.26

Order No.	w_3	w_4 ± 0.05	F max. C_0 rad & ax N	Dyn. load C N	Dyn. moment M_x Nm	Dyn. moment $M_{y \& z}$ Nm	Static moment M_x Nm	Static moment $M_{y \& z}$ Nm
L1018.F15	15	16.0	2.000	5.000	36	29	14	12
L1018.F20	20	21.5	4.400	11.000	101	89	40	35
L1018.F25	23	23.5	6.400	16.000	165	147	66	59



Unflanged Aluminium Carriages with retained ball cage

Linear Guide-ways



L1018.U

LINEAR GUIDEWAYS

Material

Aluminium block (X46Cr13 hardened to F35), tensile strength 350N/mm².
Stainless steel inserts hardened, and stainless ball bearings (DIN 1.4034).

Technical Notes

Compact, light-weight design. 60% saving versus steel versions.
Select the size and number of carriages to suit the required load then select the

required rail length, (see rail part nos. L1018). Standard carriages are not preloaded.

Mounting dimensions are identical to those of most steel linear guide rails, making them interchangeable.

Tips

These are aluminium rail carriages and can only be used with corresponding aluminium linear rails L1018. For stan-

ard steel linear guideways and carriages see part no. L1016.

Important Notes

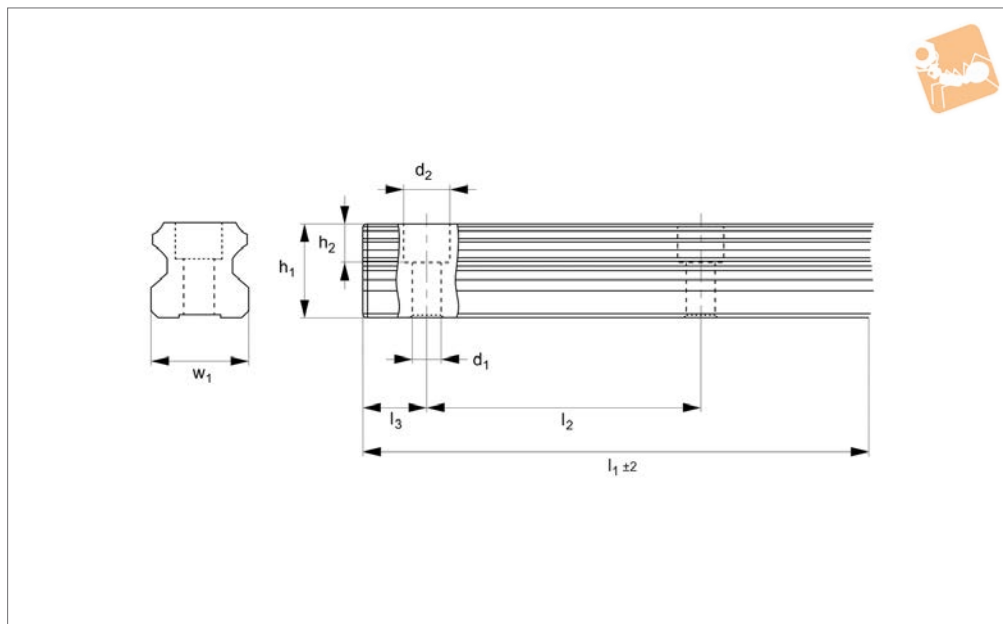
Static loads ratings are difficult to calculate clearly due to the combination of materials. Do not exceed F_{max} or maximum static moment load rating. See load calculations on technical pages.

Order No.	Rail size	l_1	w_1	h_1 ± 0.03	d_1	h_2	h_3	h_4	l_2	l_3	l_4	w_2	w_3	Weight kg
L1018.U15	15	64.0	34	24	M4	19.8	4.1	6.0	37.8	26	2.5	26	15	0.07
L1018.U20	20	85.9	44	30	M5	24.7	5.5	7.5	51.5	36	2.8	32	20	0.15
L1018.U25	25	96.0	48	36	M6	29.9	6.4	9.0	58.0	35	3.0	35	23	0.22

Order No.	w_4 ± 0.05	F N max.	Dyn. load $C_{rad \& ax}$ N	M_x dyn. Nm	M_x static Nm max.	$M_y + M_z$ dyn. Nm	$M_y + M_z$ static Nm max.
L1018.U15	9.5	2.000	5.000	36	14	29	12
L1018.U20	12.0	4.400	11.000	101	40	89	35
L1018.U25	12.5	6.400	16.000	165	66	147	59



L1018.15



Material

Aluminium profile (AlMgSi0.5, anodized 12-15µ). Raceway stainless steel (X46Cr13), hardened to 58-62HRC.

versus steel versions. The aluminium rails are made of high quality aluminium alloy with hardened stainless steel raceway.

weight aluminium carriages. For standard steel linear guideways and carriages see part no. L1016.

Technical Notes

Compact, light-weight design. 60% saving

Tips

These are very lightweight aluminium rails and can only be used with our light-

Order No.	l_1	w_1	h_1	d_1	d_2	h_2	l_2	l_3	Weight kg
L1018.15-0180	180	15	14.0	4.4	7.5	6.2	60	28	10.30
L1018.15-0240	240	15	14.0	4.4	7.5	6.2	60	28	13.70
L1018.15-0300	300	15	14.0	4.4	7.5	6.2	60	28	17.10
L1018.15-0360	360	15	14.0	4.4	7.5	6.2	60	28	20.50
L1018.15-0420	420	15	14.0	4.4	7.5	6.2	60	28	23.90
L1018.15-0480	480	15	14.0	4.4	7.5	6.2	60	28	27.40
L1018.15-0540	540	15	14.0	4.4	7.5	6.2	60	28	30.80
L1018.15-0600	600	15	14.0	4.4	7.5	6.2	60	28	34.20
L1018.15-0660	660	15	14.0	4.4	7.5	6.2	60	28	37.60
L1018.15-0720	720	15	14.0	4.4	7.5	6.2	60	28	41.00
L1018.15-0780	780	15	14.0	4.4	7.5	6.2	60	28	44.50
L1018.15-0840	840	15	14.0	4.4	7.5	6.2	60	28	47.90
L1018.15-0900	900	15	14.0	4.4	7.5	6.2	60	28	51.30
L1018.15-0960	960	15	14.0	4.4	7.5	6.2	60	28	54.70
L1018.15-1020	1020	15	14.0	4.4	7.5	6.2	60	28	58.14
L1018.15-1080	1080	15	14.0	4.4	7.5	6.2	60	28	61.56
L1018.15-1140	1140	15	14.0	4.4	7.5	6.2	60	28	64.98
L1018.15-1200	1200	15	14.0	4.4	7.5	6.2	60	28	68.40
L1018.15-1260	1260	15	14.0	4.4	7.5	6.2	60	28	71.82
L1018.15-1320	1320	15	14.0	4.4	7.5	6.2	60	28	75.24
L1018.15-1380	1380	15	14.0	4.4	7.5	6.2	60	28	78.66
L1018.15-1440	1440	15	14.0	4.4	7.5	6.2	60	28	82.08
L1018.15-1500	1550	15	14.0	4.4	7.5	6.2	60	28	88.35
L1018.15-1560	1560	15	14.0	4.4	7.5	6.2	60	28	88.92
L1018.15-1620	1620	15	14.0	4.4	7.5	6.2	60	28	92.34
L1018.15-1680	1680	15	14.0	4.4	7.5	6.2	60	28	95.76
L1018.15-1740	1740	15	14.0	4.4	7.5	6.2	60	28	99.18
L1018.15-1800	1800	15	14.0	4.4	7.5	6.2	60	28	102.60
L1018.15-1860	1860	15	14.0	4.4	7.5	6.2	60	28	106.02
L1018.15-1920	1920	15	14.0	4.4	7.5	6.2	60	28	109.44
L1018.15-1980	1980	15	14.0	4.4	7.5	6.2	60	28	112.86



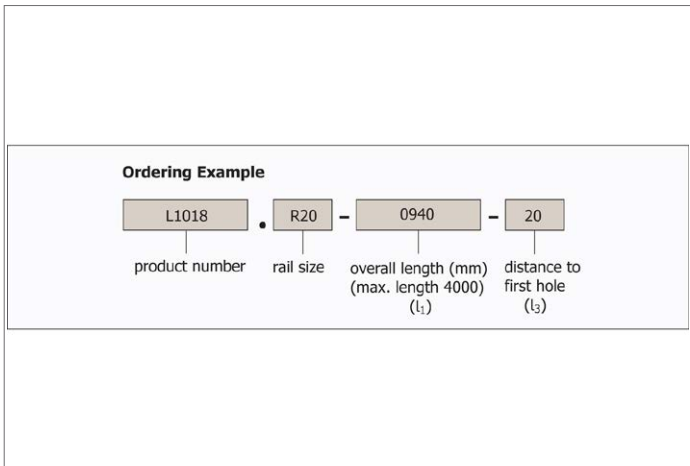
15mm Aluminium Linear Guide Rail

with stainless raceways

Linear Guide-ways

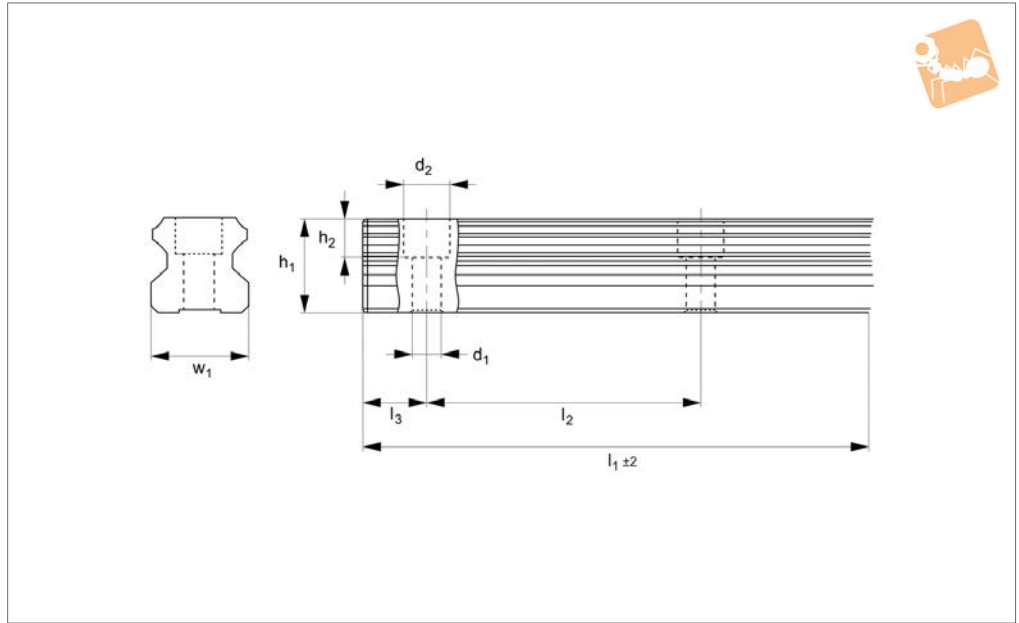
Order No.	l_1	w_1	h_1	d_1	d_2	h_2	l_2	l_3	Weight kg
L1018.15-2040	2040	15	14.0	4.4	7.5	6.2	60	28	116.28
L1018.15-2100	2100	15	14.0	4.4	7.5	6.2	60	28	119.70
L1018.15-2160	2160	15	14.0	4.4	7.5	6.2	60	28	123.12
L1018.15-2220	2220	15	14.0	4.4	7.5	6.2	60	28	126.54
L1018.15-2280	2280	15	14.0	4.4	7.5	6.2	60	28	129.96
L1018.15-2340	2340	15	14.0	4.4	7.5	6.2	60	28	133.38
L1018.15-2400	2400	15	14.0	4.4	7.5	6.2	60	28	136.80
L1018.15-2460	2460	15	14.0	4.4	7.5	6.2	60	28	140.22
L1018.15-2520	2520	15	14.0	4.4	7.5	6.2	60	28	143.64
L1018.15-2580	2580	15	14.0	4.4	7.5	6.2	60	28	147.06
L1018.15-2640	2640	15	14.0	4.4	7.5	6.2	60	28	150.48
L1018.15-2700	2700	15	14.0	4.4	7.5	6.2	60	28	153.90
L1018.15-2760	2760	15	14.0	4.4	7.5	6.2	60	28	157.32
L1018.15-2820	2820	15	14.0	4.4	7.5	6.2	60	28	160.74
L1018.15-2880	2880	15	14.0	4.4	7.5	6.2	60	28	164.16
L1018.15-2940	2940	15	14.0	4.4	7.5	6.2	60	28	167.58
L1018.15-3000	3000	15	14.0	4.4	7.5	6.2	60	28	171.00
L1018.15-3060	3060	15	14.0	4.4	7.5	6.2	60	28	174.42
L1018.15-3120	3120	15	14.0	4.4	7.5	6.2	60	28	177.84
L1018.15-3180	3180	15	14.0	4.4	7.5	6.2	60	28	181.26
L1018.15-3240	3240	15	14.0	4.4	7.5	6.2	60	28	184.68
L1018.15-3300	3300	15	14.0	4.4	7.5	6.2	60	28	188.10
L1018.15-3360	3360	15	14.0	4.4	7.5	6.2	60	28	191.52
L1018.15-3420	3420	15	14.0	4.4	7.5	6.2	60	28	194.94
L1018.15-3480	3480	15	14.0	4.4	7.5	6.2	60	28	198.36
L1018.15-3540	3540	15	14.0	4.4	7.5	6.2	60	28	201.78
L1018.15-3600	3600	15	14.0	4.4	7.5	6.2	60	28	205.20
L1018.15-3660	3660	15	14.0	4.4	7.5	6.2	60	28	208.62
L1018.15-3720	3720	15	14.0	4.4	7.5	6.2	60	28	212.04
L1018.15-3780	3780	15	14.0	4.4	7.5	6.2	60	28	215.46
L1018.15-3840	3840	15	14.0	4.4	7.5	6.2	60	28	218.88
L1018.15-3900	3900	15	14.0	4.4	7.5	6.2	60	28	222.30
L1018.15-3960	3960	15	14.0	4.4	7.5	6.2	60	28	225.72
L1018.15-4000	4000	15	14.0	4.4	7.5	6.2	60	28	228.00

LINEAR GUIDEWAYS





L1018.20



Material

Aluminium profile (AlMgSi0.5, anodized 12-15µ). Raceway stainless steel (X46Cr13), hardened to 58-62HRC.

versus steel versions. The aluminium rails are made of high quality aluminium alloy with hardened stainless steel raceway.

weight aluminium carriages. For standard steel linear guideways and carriages see part no. L1016.

Technical Notes

Compact, light-weight design. 60% saving

Tips

These are very lightweight aluminium rails and can only be used with our light-

Order No.	Rail size	l_1	w_1	h_1	d_1	d_2	h_2	l_2	l_3	Weight kg
L1018.20-0180	20	180	20	19.3	6.0	9.4	7.7	60	30	0.1
L1018.20-0240	20	240	20	19.3	6.0	9.4	7.7	60	30	0.1
L1018.20-0300	20	300	20	19.3	6.0	9.4	7.7	60	30	0.2
L1018.20-0360	20	360	20	19.3	6.0	9.4	7.7	60	30	0.2
L1018.20-0420	20	420	20	19.3	6.0	9.4	7.7	60	30	0.2
L1018.20-0480	20	480	20	19.3	6.0	9.4	7.7	60	30	0.3
L1018.20-0540	20	540	20	19.3	6.0	9.4	7.7	60	30	0.3
L1018.20-0600	20	600	20	19.3	6.0	9.4	7.7	60	30	0.3
L1018.20-0660	20	660	20	19.3	6.0	9.4	7.7	60	30	0.4
L1018.20-0720	20	720	20	19.3	6.0	9.4	7.7	60	30	0.4
L1018.20-0780	20	780	20	19.3	6.0	9.4	7.7	60	30	0.4
L1018.20-0840	20	840	20	19.3	6.0	9.4	7.7	60	30	0.5
L1018.20-0900	20	900	20	19.3	6.0	9.4	7.7	60	30	0.5
L1018.20-0960	20	960	20	19.3	6.0	9.4	7.7	60	30	0.5
L1018.20-1020	20	1020	20	19.3	6.0	9.4	7.7	60	30	0.6
L1018.20-1080	20	1080	20	19.3	6.0	9.4	7.7	60	30	0.6
L1018.20-1140	20	1140	20	19.3	6.0	9.4	7.7	60	30	0.6
L1018.20-1200	20	1200	20	19.3	6.0	9.4	7.7	60	30	0.7
L1018.20-1260	20	1260	20	19.3	6.0	9.4	7.7	60	30	0.7
L1018.20-1320	20	1320	20	19.3	6.0	9.4	7.7	60	30	0.8
L1018.20-1380	20	1380	20	19.3	6.0	9.4	7.7	60	30	0.8
L1018.20-1440	20	1440	20	19.3	6.0	9.4	7.7	60	30	0.8
L1018.20-1500	20	1500	20	19.3	6.0	9.4	7.7	60	30	0.9
L1018.20-1560	20	1560	20	19.3	6.0	9.4	7.7	60	30	0.9
L1018.20-1620	20	1620	20	19.3	6.0	9.4	7.7	60	30	0.9
L1018.20-1680	20	1680	20	19.3	6.0	9.4	7.7	60	30	1.0
L1018.20-1740	20	1740	20	19.3	6.0	9.4	7.7	60	30	1.0
L1018.20-1800	20	1800	20	19.3	6.0	9.4	7.7	60	30	1.0
L1018.20-1860	20	1860	20	19.3	6.0	9.4	7.7	60	30	1.1
L1018.20-1920	20	1920	20	19.3	6.0	9.4	7.7	60	30	1.1
L1018.20-1980	20	1980	20	19.3	6.0	9.4	7.7	60	30	1.1



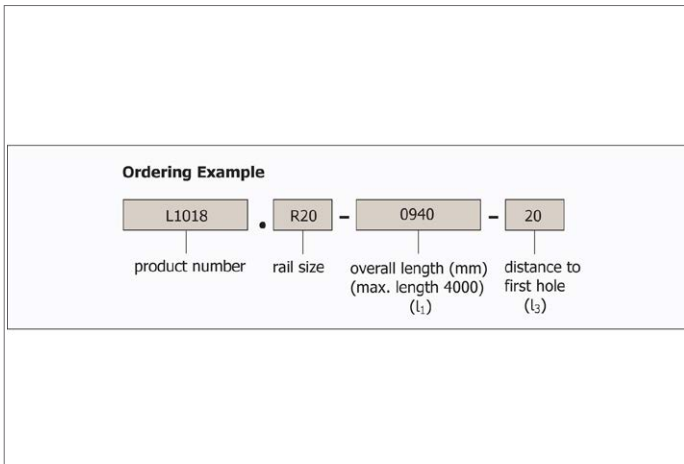
20mm Aluminium Linear Guide Rail

with stainless raceways

Linear Guide-
ways

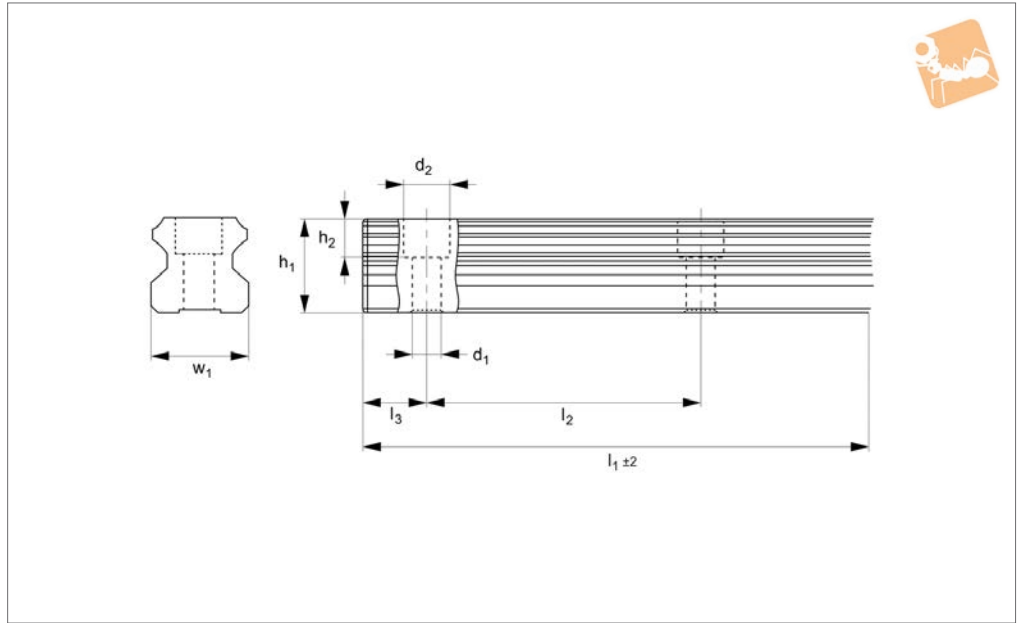
Order No.	Rail size	l_1	w_1	h_1	d_1	d_2	h_2	l_2	l_3	Weight kg
L1018.20-2040	20	2040	20	19.3	6.0	9.4	7.7	60	30	1.2
L1018.20-2100	20	2100	20	19.3	6.0	9.4	7.7	60	30	1.2
L1018.20-2160	20	2160	20	19.3	6.0	9.4	7.7	60	30	1.2
L1018.20-2220	20	2220	20	19.3	6.0	9.4	7.7	60	30	1.3
L1018.20-2280	20	2280	20	19.3	6.0	9.4	7.7	60	30	1.3
L1018.20-2340	20	2340	20	19.3	6.0	9.4	7.7	60	30	1.3
L1018.20-2400	20	2400	20	19.3	6.0	9.4	7.7	60	30	1.4
L1018.20-2460	20	2460	20	19.3	6.0	9.4	7.7	60	30	1.4
L1018.20-2520	20	2520	20	19.3	6.0	9.4	7.7	60	30	1.4
L1018.20-2580	20	2580	20	19.3	6.0	9.4	7.7	60	30	1.5
L1018.20-2640	20	2640	20	19.3	6.0	9.4	7.7	60	30	1.5
L1018.20-2700	20	2700	20	19.3	6.0	9.4	7.7	60	30	1.5
L1018.20-2760	20	2760	20	19.3	6.0	9.4	7.7	60	30	1.6
L1018.20-2820	20	2820	20	19.3	6.0	9.4	7.7	60	30	1.6
L1018.20-2880	20	2880	20	19.3	6.0	9.4	7.7	60	30	1.6
L1018.20-2940	20	2940	20	19.3	6.0	9.4	7.7	60	30	1.7
L1018.20-3000	20	3000	20	19.3	6.0	9.4	7.7	60	30	1.7
L1018.20-3060	20	3060	20	19.3	6.0	9.4	7.7	60	30	1.7
L1018.20-3120	20	3120	20	19.3	6.0	9.4	7.7	60	30	1.8
L1018.20-3180	20	3180	20	19.3	6.0	9.4	7.7	60	30	1.8
L1018.20-3240	20	3240	20	19.3	6.0	9.4	7.7	60	30	1.8
L1018.20-3300	20	3300	20	19.3	6.0	9.4	7.7	60	30	1.9
L1018.20-3360	20	3360	20	19.3	6.0	9.4	7.7	60	30	1.9
L1018.20-3420	20	3420	20	19.3	6.0	9.4	7.7	60	30	1.9
L1018.20-3480	20	3480	20	19.3	6.0	9.4	7.7	60	30	2.0
L1018.20-3540	20	3540	20	19.3	6.0	9.4	7.7	60	30	2.0
L1018.20-3600	20	3600	20	19.3	6.0	9.4	7.7	60	30	2.1
L1018.20-3660	20	3660	20	19.3	6.0	9.4	7.7	60	30	2.1
L1018.20-3720	20	3720	20	19.3	6.0	9.4	7.7	60	30	2.1
L1018.20-3780	20	3780	20	19.3	6.0	9.4	7.7	60	30	2.2
L1018.20-3840	20	3840	20	19.3	6.0	9.4	7.7	60	30	2.2
L1018.20-3900	20	3900	20	19.3	6.0	9.4	7.7	60	30	2.2
L1018.20-3960	20	3960	20	19.3	6.0	9.4	7.7	60	30	2.3
L1018.20-4000	20	4000	20	19.3	6.0	9.4	7.7	60	30	2.3

LINEAR GUIDEWAYS





L1018.25



Material

Aluminium profile (AlMgSi0.5, anodized 12-15µ). Raceway stainless steel (X46Cr13), hardened to 58-62HRC.

versus steel versions. The aluminium rails are made of high quality aluminium alloy with hardened stainless steel raceway.

weight aluminium carriages. For standard steel linear guideways and carriages see part no. L1016.

Technical Notes

Compact, light-weight design. 60% saving

Tips

These are very lightweight aluminium rails and can only be used with our light-

Order No.	Rail size	l_1	w_1	h_1	d_1	d_2	h_2	l_2	l_3	Weight kg
L1018.25-0180	25	180	25	21.8	7.0	11.0	8.9	60	30	0.2
L1018.25-0240	25	240	25	21.8	7.0	11.0	8.9	60	30	0.3
L1018.25-0300	25	300	25	21.8	7.0	11.0	8.9	60	30	0.4
L1018.25-0360	25	360	25	21.8	7.0	11.0	8.9	60	30	0.5
L1018.25-0420	25	420	25	21.8	7.0	11.0	8.9	60	30	0.5
L1018.25-0480	25	480	25	21.8	7.0	11.0	8.9	60	30	0.6
L1018.25-0540	25	540	25	21.8	7.0	11.0	8.9	60	30	0.7
L1018.25-0600	25	600	25	21.8	7.0	11.0	8.9	60	30	0.8
L1018.25-0660	25	660	25	21.8	7.0	11.0	8.9	60	30	0.8
L1018.25-0720	25	720	25	21.8	7.0	11.0	8.9	60	30	0.9
L1018.25-0780	25	780	25	21.8	7.0	11.0	8.9	60	30	1.0
L1018.25-0840	25	840	25	21.8	7.0	11.0	8.9	60	30	1.1
L1018.25-0900	25	900	25	21.8	7.0	11.0	8.9	60	30	1.1
L1018.25-0960	25	960	25	21.8	7.0	11.0	8.9	60	30	1.2
L1018.25-1020	25	1020	25	21.8	7.0	11.0	8.9	60	30	0.0
L1018.25-1080	25	1080	25	21.8	7.0	11.0	8.9	60	30	0.1
L1018.25-1140	25	1140	25	21.8	7.0	11.0	8.9	60	30	0.2
L1018.25-1200	25	1200	25	21.8	7.0	11.0	8.9	60	30	0.3
L1018.25-1260	25	1260	25	21.8	7.0	11.0	8.9	60	30	0.3
L1018.25-1320	25	1320	25	21.8	7.0	11.0	8.9	60	30	0.4
L1018.25-1380	25	1380	25	21.8	7.0	11.0	8.9	60	30	0.5
L1018.25-1440	25	1440	25	21.8	7.0	11.0	8.9	60	30	0.6
L1018.25-1500	25	1500	25	21.8	7.0	11.0	8.9	60	30	0.6
L1018.25-1560	25	1560	25	21.8	7.0	11.0	8.9	60	30	0.7
L1018.25-1620	25	1620	25	21.8	7.0	11.0	8.9	60	30	0.8
L1018.25-1680	25	1680	25	21.8	7.0	11.0	8.9	60	30	0.9
L1018.25-1740	25	1740	25	21.8	7.0	11.0	8.9	60	30	0.9
L1018.25-1800	25	1800	25	21.8	7.0	11.0	8.9	60	30	1.0
L1018.25-1860	25	1860	25	21.8	7.0	11.0	8.9	60	30	1.1
L1018.25-1920	25	1920	25	21.8	7.0	11.0	8.9	60	30	1.2
L1018.25-1980	25	1980	25	21.8	7.0	11.0	8.9	60	30	1.2



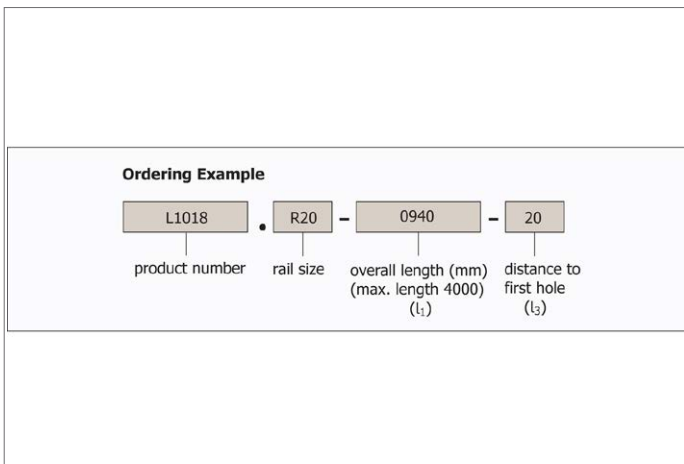
25mm Aluminium Linear Guide Rail

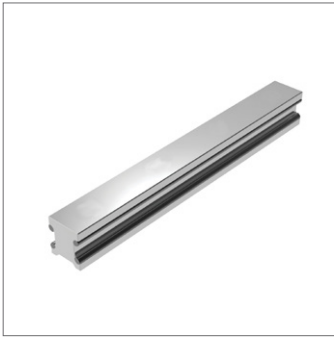
with stainless raceways

Linear Guide-
ways

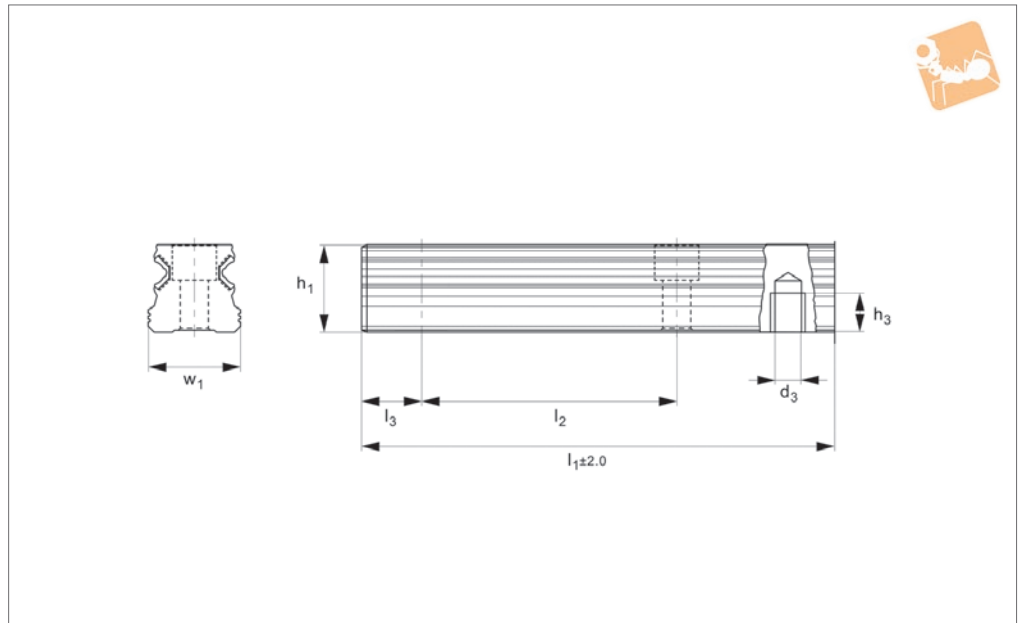
Order No.	Rail size	l_1	w_1	h_1	d_1	d_2	h_2	l_2	l_3	Weight kg
L1018.25-2040	25	2040	25	21.8	7.0	11.0	8.9	60	30	0.1
L1018.25-2100	25	2100	25	21.8	7.0	11.0	8.9	60	30	0.1
L1018.25-2160	25	2160	25	21.8	7.0	11.0	8.9	60	30	0.2
L1018.25-2220	25	2220	25	21.8	7.0	11.0	8.9	60	30	0.3
L1018.25-2280	25	2280	25	21.8	7.0	11.0	8.9	60	30	0.4
L1018.25-2340	25	2340	25	21.8	7.0	11.0	8.9	60	30	0.4
L1018.25-2400	25	2400	25	21.8	7.0	11.0	8.9	60	30	0.5
L1018.25-2460	25	2460	25	21.8	7.0	11.0	8.9	60	30	0.6
L1018.25-2520	25	2520	25	21.8	7.0	11.0	8.9	60	30	0.7
L1018.25-2580	25	2580	25	21.8	7.0	11.0	8.9	60	30	0.7
L1018.25-2640	25	2640	25	21.8	7.0	11.0	8.9	60	30	0.8
L1018.25-2700	25	2700	25	21.8	7.0	11.0	8.9	60	30	0.9
L1018.25-2760	25	2760	25	21.8	7.0	11.0	8.9	60	30	1.0
L1018.25-2820	25	2820	25	21.8	7.0	11.0	8.9	60	30	1.0
L1018.25-2880	25	2880	25	21.8	7.0	11.0	8.9	60	30	1.1
L1018.25-2940	25	2940	25	21.8	7.0	11.0	8.9	60	30	1.2
L1018.25-3000	25	3000	25	21.8	7.0	11.0	8.9	60	30	0.0
L1018.25-3060	25	3060	25	21.8	7.0	11.0	8.9	60	30	0.1
L1018.25-3120	25	3120	25	21.8	7.0	11.0	8.9	60	30	0.2
L1018.25-3180	25	3180	25	21.8	7.0	11.0	8.9	60	30	0.2
L1018.25-3240	25	3240	25	21.8	7.0	11.0	8.9	60	30	0.3
L1018.25-3300	25	3300	25	21.8	7.0	11.0	8.9	60	30	0.4
L1018.25-3360	25	3360	25	21.8	7.0	11.0	8.9	60	30	0.5
L1018.25-3420	25	3420	25	21.8	7.0	11.0	8.9	60	30	0.5
L1018.25-3480	25	3480	25	21.8	7.0	11.0	8.9	60	30	0.6
L1018.25-3540	25	3540	25	21.8	7.0	11.0	8.9	60	30	0.7
L1018.25-3600	25	3600	25	21.8	7.0	11.0	8.9	60	30	0.8
L1018.25-3660	25	3660	25	21.8	7.0	11.0	8.9	60	30	0.8
L1018.25-3720	25	3720	25	21.8	7.0	11.0	8.9	60	30	0.9
L1018.25-3780	25	3780	25	21.8	7.0	11.0	8.9	60	30	1.0
L1018.25-3840	25	3840	25	21.8	7.0	11.0	8.9	60	30	1.1
L1018.25-3900	25	3900	25	21.8	7.0	11.0	8.9	60	30	1.1
L1018.25-3960	25	3960	25	21.8	7.0	11.0	8.9	60	30	1.2
L1018.25-4000	25	4000	25	21.8	7.0	11.0	28	60	30	5.0

LINEAR GUIDEWAYS





L1018.15R



Material

Aluminium profile (AlMgSi0.5, anodized 12-15µ). Raceway stainless steel (X46Cr13), hardened to 58-62HRC.

versus steel versions. The aluminium rails are made of high quality aluminium alloy with hardened stainless steel raceway.

weight aluminium carriages. For standard steel linear guideways and carriages see part no. L1016.

Technical Notes

Compact, light-weight design. 60% saving

Tips

These are very lightweight aluminium rails and can only be used with our light-

Order No.	Rail size	l_1	w_1	h_1	d_3	h_3	l_2	l_3	Weight kg
L1018.15-0180-R	15	180	15	14.3	M5	7	60	28	0.1
L1018.15-0240-R	15	240	15	14.3	M5	7	60	28	0.1
L1018.15-0300-R	15	300	15	14.3	M5	7	60	28	0.2
L1018.15-0360-R	15	360	15	14.3	M5	7	60	28	0.2
L1018.15-0420-R	15	420	15	14.3	M5	7	60	28	0.2
L1018.15-0480-R	15	480	15	14.3	M5	7	60	28	0.3
L1018.15-0540-R	15	540	15	14.3	M5	7	60	28	0.3
L1018.15-0600-R	15	600	15	14.3	M5	7	60	28	0.3
L1018.15-0660-R	15	660	15	14.3	M5	7	60	28	0.4
L1018.15-0720-R	15	720	15	14.3	M5	7	60	28	0.4
L1018.15-0780-R	15	780	15	14.3	M5	7	60	28	0.4
L1018.15-0840-R	15	840	15	14.3	M5	7	60	28	0.5
L1018.15-0900-R	15	900	15	14.3	M5	7	60	28	0.5
L1018.15-0960-R	15	960	15	14.3	M5	7	60	28	0.5
L1018.15-1020-R	15	1020	15	14.3	M5	7	60	28	0.6
L1018.15-1080-R	15	1080	15	14.3	M5	7	60	28	0.6
L1018.15-1140-R	15	1140	15	14.3	M5	7	60	28	0.6
L1018.15-1200-R	15	1200	15	14.3	M5	7	60	28	0.7
L1018.15-1260-R	15	1260	15	14.3	M5	7	60	28	0.7
L1018.15-1320-R	15	1320	15	14.3	M5	7	60	28	0.8
L1018.15-1380-R	15	1380	15	14.3	M5	7	60	28	0.8
L1018.15-1440-R	15	1440	15	14.3	M5	7	60	28	0.8
L1018.15-1500-R	15	1500	15	14.3	M5	7	60	28	0.9
L1018.15-1560-R	15	1560	15	14.3	M5	7	60	28	0.9
L1018.15-1620-R	15	1620	15	14.3	M5	7	60	28	0.9
L1018.15-1680-R	15	1680	15	14.3	M5	7	60	28	1.0
L1018.15-1740-R	15	1740	15	14.3	M5	7	60	28	1.0
L1018.15-1800-R	15	1800	15	14.3	M5	7	60	28	1.0
L1018.15-1860-R	15	1860	15	14.3	M5	7	60	28	1.1
L1018.15-1940-R	15	1940	15	14.3	M5	7	60	28	1.1
L1018.15-1980-R	15	1980	15	14.3	M5	7	60	28	1.1



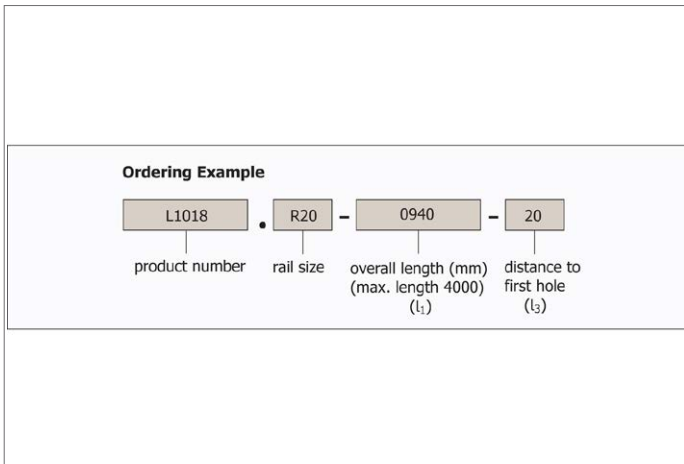
15mm Aluminium Linear Guide Rail

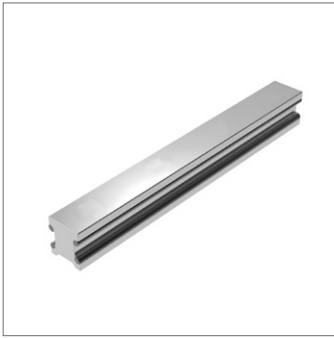
rear fixing with stainless raceways

Linear Guide-
ways

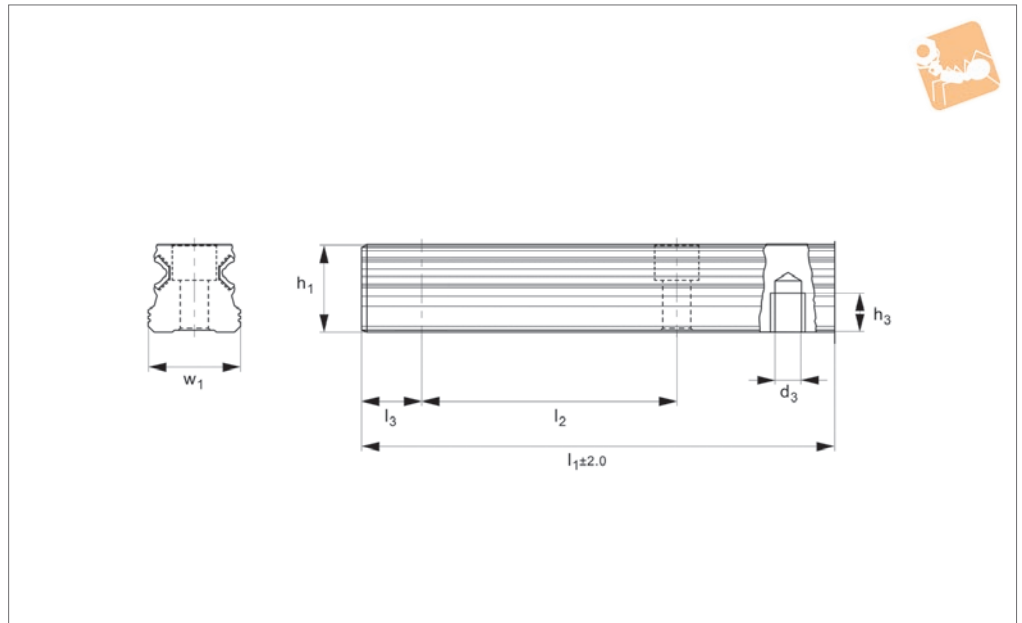
Order No.	Rail size	l_1	w_1	h_1	d_3	h_3	l_2	l_3	Weight kg
L1018.15-2040-R	15	2040	15	14.3	M5	7	60	28	1.2
L1018.15-2100-R	15	2100	15	14.3	M5	7	60	28	1.2
L1018.15-2160-R	15	2160	15	14.3	M5	7	60	28	1.2
L1018.15-2220-R	15	2220	15	14.3	M5	7	60	28	1.3
L1018.15-2280-R	15	2280	15	14.3	M5	7	60	28	1.3
L1018.15-2340-R	15	2340	15	14.3	M5	7	60	28	1.3
L1018.15-2400-R	15	2400	15	14.3	M5	7	60	28	1.4
L1018.15-2460-R	15	2460	15	14.3	M5	7	60	28	1.4
L1018.15-2520-R	15	2520	15	14.3	M5	7	60	28	1.4
L1018.15-2580-R	15	2580	15	14.3	M5	7	60	28	1.5
L1018.15-2640-R	15	2640	15	14.3	M5	7	60	28	1.5
L1018.15-2700-R	15	2700	15	14.3	M5	7	60	28	1.5
L1018.15-2760-R	15	2760	15	14.3	M5	7	60	28	1.6
L1018.15-2820-R	15	2820	15	14.3	M5	7	60	28	1.6
L1018.15-2880-R	15	2880	15	14.3	M5	7	60	28	1.6
L1018.15-2940-R	15	2940	15	14.3	M5	7	60	28	1.7
L1018.15-3000-R	15	3000	15	14.3	M5	7	60	28	1.7
L1018.15-3060-R	15	3060	15	14.3	M5	7	60	28	1.7
L1018.15-3120-R	15	3120	15	14.3	M5	7	60	28	1.8
L1018.15-3180-R	15	3180	15	14.3	M5	7	60	28	1.8
L1018.15-3240-R	15	3240	15	14.3	M5	7	60	28	1.8
L1018.15-3300-R	15	3300	15	14.3	M5	7	60	28	1.9
L1018.15-3360-R	15	3360	15	14.3	M5	7	60	28	1.9
L1018.15-3420-R	15	3420	15	14.3	M5	7	60	28	1.9
L1018.15-3480-R	15	3480	15	14.3	M5	7	60	28	2.0
L1018.15-3540-R	15	3540	15	14.3	M5	7	60	28	2.0
L1018.15-3600-R	15	3600	15	14.3	M5	7	60	28	2.1
L1018.15-3660-R	15	3660	15	14.3	M5	7	60	28	2.1
L1018.15-3720-R	15	3720	15	14.3	M5	7	60	28	2.1
L1018.15-3780-R	15	3780	15	14.3	M5	7	60	28	2.2
L1018.15-3840-R	15	3840	15	14.3	M5	7	60	28	2.2
L1018.15-3900-R	15	3900	15	14.3	M5	7	60	28	2.2
L1018.15-3960-R	15	3960	15	14.3	M5	7	60	28	2.3
L1018.15-4000-R	15	4000	15	14.3	M5	7	60	28	2.3

LINEAR GUIDEWAYS





L1018.20R



Material

Aluminium profile (AlMgSi0.5, anodized 12-15µ). Raceway stainless steel (X46Cr13), hardened to 58-62HRC.

versus steel versions. The aluminium rails are made of high quality aluminium alloy with hardened stainless steel raceway.

weight aluminium carriages. For standard steel linear guideways and carriages see part no. L1016.

Technical Notes

Compact, light-weight design. 60% saving

Tips

These are very lightweight aluminium rails and can only be used with our light-

Order No.	Rail size	w ₁	h ₁	d ₁	d ₃	h ₃	l ₂	l ₃	Weight kg
L1018.20-0180-R	20	20	19.3	180	M6	9	60	28	0.2
L1018.20-0240-R	20	20	19.3	240	M6	9	60	28	0.2
L1018.20-0300-R	20	20	19.3	300	M6	9	60	28	0.3
L1018.20-0360-R	20	20	19.3	360	M6	9	60	28	0.4
L1018.20-0420-R	20	20	19.3	420	M6	9	60	28	0.4
L1018.20-0480-R	20	20	19.3	480	M6	9	60	28	0.5
L1018.20-0540-R	20	20	19.3	540	M6	9	60	28	0.5
L1018.20-0600-R	20	20	19.3	600	M6	9	60	28	0.6
L1018.20-0660-R	20	20	19.3	660	M6	9	60	28	0.6
L1018.20-0720-R	20	20	19.3	720	M6	9	60	28	0.7
L1018.20-0780-R	20	20	19.3	780	M6	9	60	28	0.8
L1018.20-0840-R	20	20	19.3	840	M6	9	60	28	0.8
L1018.20-0900-R	20	20	19.3	900	M6	9	60	28	0.9
L1018.20-0960-R	20	20	19.3	960	M6	9	60	28	0.9
L1018.20-1020-R	20	20	19.3	1020	M6	9	60	28	1.0
L1018.20-1080-R	20	20	19.3	1080	M6	9	60	28	1.1
L1018.20-1140-R	20	20	19.3	1140	M6	9	60	28	1.1
L1018.20-1200-R	20	20	19.3	1200	M6	9	60	28	1.2
L1018.20-1260-R	20	20	19.3	1260	M6	9	60	28	1.2
L1018.20-1320-R	20	20	19.3	1320	M6	9	60	28	1.3
L1018.20-1380-R	20	20	19.3	1380	M6	9	60	28	1.4
L1018.20-1440-R	20	20	19.3	1440	M6	9	60	28	1.4
L1018.20-1500-R	20	20	19.3	1500	M6	9	60	28	1.5
L1018.20-1560-R	20	20	19.3	1560	M6	9	60	28	1.5
L1018.20-1620-R	20	20	19.3	1620	M6	9	60	28	1.6
L1018.20-1680-R	20	20	19.3	1680	M6	9	60	28	1.6
L1018.20-1740-R	20	20	19.3	1740	M6	9	60	28	1.7
L1018.20-1800-R	20	20	19.3	1800	M6	9	60	28	1.8
L1018.20-1860-R	20	20	19.3	1860	M6	9	60	28	1.8
L1018.20-1920-R	20	20	19.3	1920	M6	9	60	28	1.9
L1018.20-1980-R	20	20	19.3	1980	M6	9	60	28	1.9



20mm Aluminium Linear Guide Rail

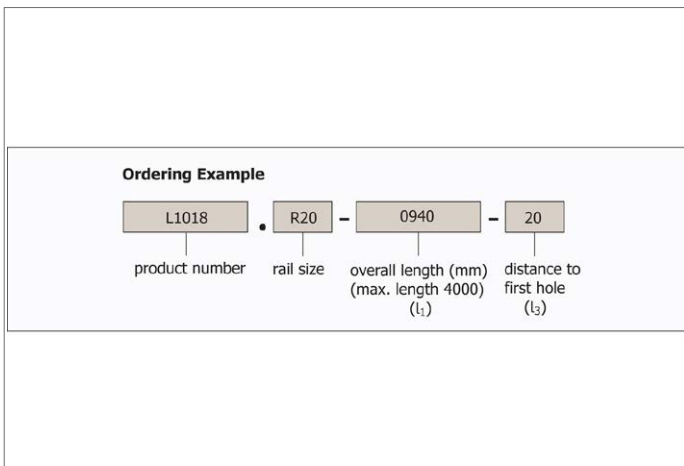
rear fixing with stainless raceways

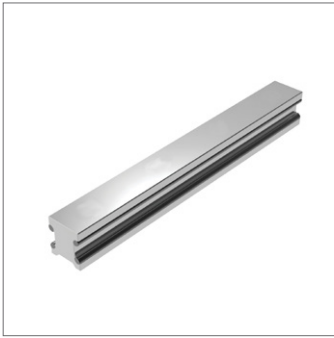


Linear Guide-ways

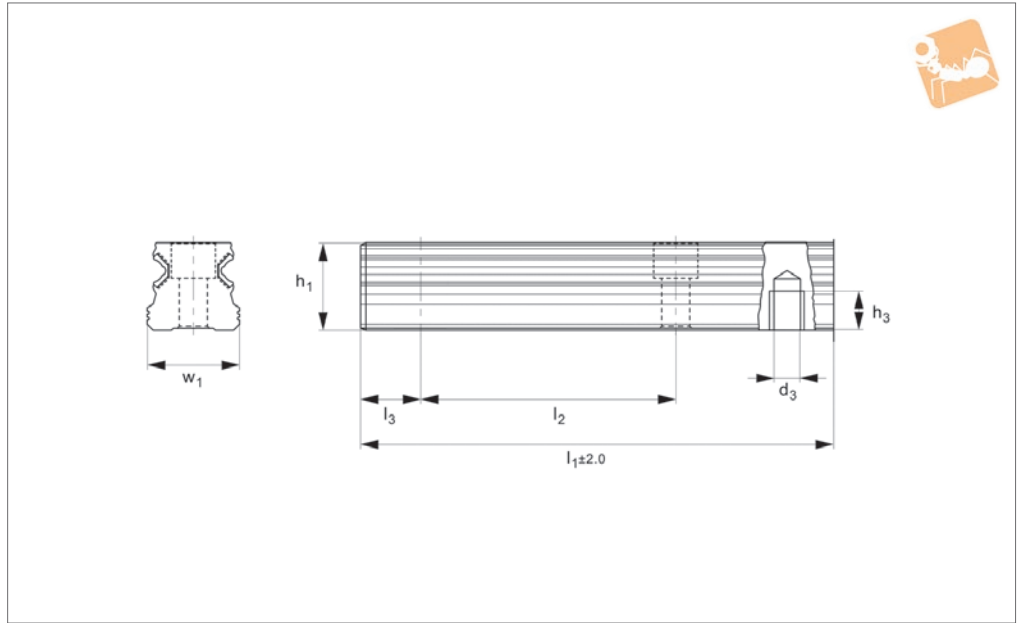
Order No.	Rail size	w ₁	h ₁	d ₁	d ₃	h ₃	l ₂	l ₃	Weight kg
L1018.20-2040-R	20	20	19.3	2040	M6	9	60	28	2.0
L1018.20-2100-R	20	20	19.3	2100	M6	9	60	28	2.1
L1018.20-2160-R	20	20	19.3	2160	M6	9	60	28	2.1
L1018.20-2220-R	20	20	19.3	2220	M6	9	60	28	2.2
L1018.20-2280-R	20	20	19.3	2280	M6	9	60	28	2.2
L1018.20-2340-R	20	20	19.3	2340	M6	9	60	28	2.3
L1018.20-2400-R	20	20	19.3	2400	M6	9	60	28	2.4
L1018.20-2460-R	20	20	19.3	2460	M6	9	60	28	2.4
L1018.20-2520-R	20	20	19.3	2520	M6	9	60	28	2.5
L1018.20-2580-R	20	20	19.3	2580	M6	9	60	28	2.5
L1018.20-2640-R	20	20	19.3	2640	M6	9	60	28	2.6
L1018.20-2700-R	20	20	19.3	2700	M6	9	60	28	2.6
L1018.20-2760-R	20	20	19.3	2760	M6	9	60	28	2.7
L1018.20-2820-R	20	20	19.3	2820	M6	9	60	28	2.8
L1018.20-2880-R	20	20	19.3	2880	M6	9	60	28	2.8
L1018.20-2940-R	20	20	19.3	2940	M6	9	60	28	2.9
L1018.20-3000-R	20	20	19.3	3000	M6	9	60	28	2.9
L1018.20-3060-R	20	20	19.3	3060	M6	9	60	28	3.0
L1018.20-3120-R	20	20	19.3	3120	M6	9	60	28	3.1
L1018.20-3180-R	20	20	19.3	3180	M6	9	60	28	3.1
L1018.20-3240-R	20	20	19.3	3240	M6	9	60	28	3.2
L1018.20-3300-R	20	20	19.3	3300	M6	9	60	28	3.2
L1018.20-3360-R	20	20	19.3	3360	M6	9	60	28	3.3
L1018.20-3420-R	20	20	19.3	3420	M6	9	60	28	3.4
L1018.20-3480-R	20	20	19.3	3480	M6	9	60	28	3.4
L1018.20-3540-R	20	20	19.3	3540	M6	9	60	28	3.5
L1018.20-3600-R	20	20	19.3	3600	M6	9	60	28	3.5
L1018.20-3660-R	20	20	19.3	3660	M6	9	60	28	3.6
L1018.20-3720-R	20	20	19.3	3720	M6	9	60	28	3.6
L1018.20-3780-R	20	20	19.3	3780	M6	9	60	28	3.7
L1018.20-3840-R	20	20	19.3	3840	M6	9	60	28	3.8
L1018.20-3900-R	20	20	19.3	3900	M6	9	60	28	3.8
L1018.20-3960-R	20	20	19.3	3960	M6	9	60	28	3.9
L1018.20-4000-R	20	20	19.3	4000	M6	9	60	28	3.9

LINEAR GUIDEWAYS





L1018.25R



Material

Aluminium profile (AlMgSi0.5, anodized 12-15µ). Raceway stainless steel (X46Cr13), hardened to 58-62HRC.

versus steel versions. The aluminium rails are made of high quality aluminium alloy with hardened stainless steel raceway.

weight aluminium carriages. For standard steel linear guideways and carriages see part no. L1016.

Technical Notes

Compact, light-weight design. 60% saving

Tips

These are very lightweight aluminium rails and can only be used with our light-

Order No.	Rail size	l_1	w_1	h_1	d_3	h_3	l_2	l_3	Weight kg
L1018.25-0180-R	25	180	25	21.8	M6	12	60	28	0.2
L1018.25-0240-R	25	240	25	21.8	M6	12	60	28	0.3
L1018.25-0300-R	25	300	25	21.8	M6	12	60	28	0.4
L1018.25-0360-R	25	360	25	21.8	M6	12	60	28	0.5
L1018.25-0420-R	25	420	25	21.8	M6	12	60	28	0.5
L1018.25-0480-R	25	480	25	21.8	M6	12	60	28	0.6
L1018.25-0540-R	25	540	25	21.8	M6	12	60	28	0.7
L1018.25-0600-R	25	600	25	21.8	M6	12	60	28	0.8
L1018.25-0660-R	25	660	25	21.8	M6	12	60	28	0.8
L1018.25-0720-R	25	720	25	21.8	M6	12	60	28	0.9
L1018.25-0780-R	25	780	25	21.8	M6	12	60	28	1.0
L1018.25-0840-R	25	840	25	21.8	M6	12	60	28	1.1
L1018.25-0900-R	25	900	25	21.8	M6	12	60	28	1.1
L1018.25-0960-R	25	960	25	21.8	M6	12	60	28	1.2
L1018.25-1020-R	25	1020	25	21.8	M6	12	60	28	1.3
L1018.25-1080-R	25	1080	25	21.8	M6	12	60	28	1.4
L1018.25-1140-R	25	1140	25	21.8	M6	12	60	28	1.4
L1018.25-1200-R	25	1200	25	21.8	M6	12	60	28	1.5
L1018.25-1260-R	25	1260	25	21.8	M6	12	60	28	1.6
L1018.25-1320-R	25	1320	25	21.8	M6	12	60	28	1.7
L1018.25-1380-R	25	1380	25	21.8	M6	12	60	28	1.7
L1018.25-1440-R	25	1440	25	21.8	M6	12	60	28	1.8
L1018.25-1500-R	25	1500	25	21.8	M6	12	60	28	1.9
L1018.25-1560-R	25	1560	25	21.8	M6	12	60	28	2.0
L1018.25-1620-R	25	1620	25	21.8	M6	12	60	28	2.0
L1018.25-1680-R	25	1680	25	21.8	M6	12	60	28	2.1
L1018.25-1740-R	25	1740	25	21.8	M6	12	60	28	2.2
L1018.25-1800-R	25	1800	25	21.8	M6	12	60	28	2.3
L1018.25-1860-R	25	1860	25	21.8	M6	12	60	28	2.3
L1018.25-1920-R	25	1920	25	21.8	M6	12	60	28	2.4
L1018.25-1980-R	25	1980	25	21.8	M6	12	60	28	2.5



25mm Aluminium Linear Guide Rail

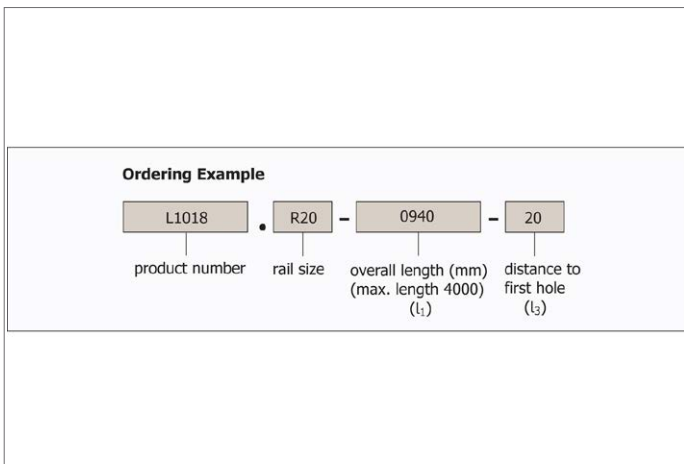
rear fixing with stainless raceways



Linear Guide-ways

Order No.	Rail size	l_1	w_1	h_1	d_3	h_3	l_2	l_3	Weight kg
L1018.25-2040-R	25	2040	25	21.8	M6	12	60	28	2.6
L1018.25-2100-R	25	2100	25	21.8	M6	12	60	28	2.6
L1018.25-2160-R	25	2160	25	21.8	M6	12	60	28	2.7
L1018.25-2220-R	25	2220	25	21.8	M6	12	60	28	2.8
L1018.25-2280-R	25	2280	25	21.8	M6	12	60	28	2.9
L1018.25-2340-R	25	2340	25	21.8	M6	12	60	28	2.9
L1018.25-2400-R	25	2400	25	21.8	M6	12	60	28	3.0
L1018.25-2460-R	25	2460	25	21.8	M6	12	60	28	3.1
L1018.25-2520-R	25	2520	25	21.8	M6	12	60	28	3.2
L1018.25-2580-R	25	2580	25	21.8	M6	12	60	28	3.2
L1018.25-2640-R	25	2640	25	21.8	M6	12	60	28	3.3
L1018.25-2700-R	25	2700	25	21.8	M6	12	60	28	3.4
L1018.25-2760-R	25	2760	25	21.8	M6	12	60	28	3.5
L1018.25-2820-R	25	2820	25	21.8	M6	12	60	28	3.5
L1018.25-2880-R	25	2880	25	21.8	M6	12	60	28	3.6
L1018.25-2940-R	25	2940	25	21.8	M6	12	60	28	3.7
L1018.25-3000-R	25	3000	25	21.8	M6	12	60	28	3.8
L1018.25-3060-R	25	3060	25	21.8	M6	12	60	28	3.8
L1018.25-3120-R	25	3120	25	21.8	M6	12	60	28	3.9
L1018.25-3180-R	25	3180	25	21.8	M6	12	60	28	4.0
L1018.25-3240-R	25	3240	25	21.8	M6	12	60	28	4.1
L1018.25-3300-R	25	3300	25	21.8	M6	12	60	28	4.1
L1018.25-3360-R	25	3360	25	21.8	M6	12	60	28	4.2
L1018.25-3420-R	25	3420	25	21.8	M6	12	60	28	4.3
L1018.25-3480-R	25	3480	25	21.8	M6	12	60	28	4.4
L1018.25-3540-R	25	3540	25	21.8	M6	12	60	28	4.4
L1018.25-3600-R	25	3600	25	21.8	M6	12	60	28	4.5
L1018.25-3660-R	25	3660	25	21.8	M6	12	60	28	4.6
L1018.25-3720-R	25	3720	25	21.8	M6	12	60	28	4.7
L1018.25-3780-R	25	3780	25	21.8	M6	12	60	28	4.7
L1018.25-3840-R	25	3840	25	21.8	M6	12	60	28	4.8
L1018.25-3900-R	25	3900	25	21.8	M6	12	60	28	4.9
L1018.25-3960-R	25	3960	25	21.8	M6	12	60	28	5.0
L1018.25-4000-R	25	4000	25	21.8	M6	12	60	28	5.0

LINEAR GUIDEWAYS





Determination of the carriage size:

1. Pre-select the carriages
2. Determine F_{comb} (see below)
3. Calculate the ratio of the dynamic load capacity "C" of the selected carriages relative to F_{comb} (F_{comb} divided by "C")

If $F_{comb}/C > 0.4$: carriage is sized too small, select the next largest size and repeat the calculation (step 2 and 3).

The ratio must always be $F_{comb}/C \leq 0.4$, otherwise F_{max} will be exceeded.

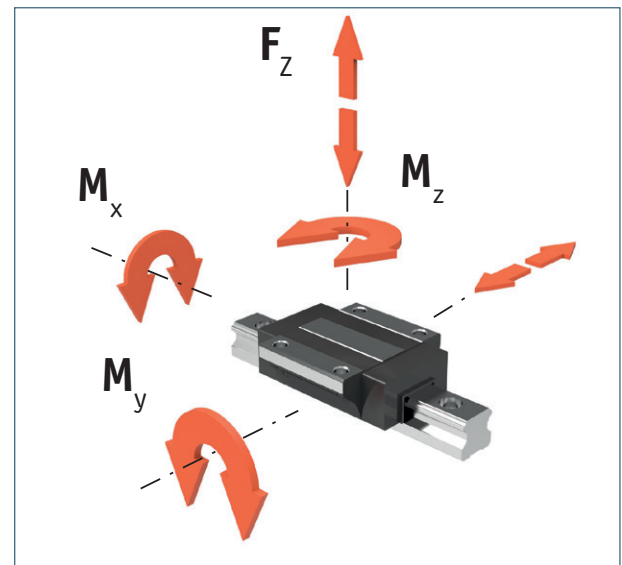
Note:

The load ratio F_{comb}/C is the quotient of the equivalent dynamic load on the bearing divided by the dynamic load capacity "C".

Calculation of load on bearing for a carriage:

$$F_{comb} = b \cdot \left(|F_z| + |F_y| + C \cdot \frac{|M_x|}{M_t} + C \cdot \frac{|M_y|}{M_L} + C \cdot \frac{|M_z|}{M_L} \right)$$

- F_{comb} = combined equivalent load (N)
- F_y, F_z = Dynamic load (N)
- M_x = torque of the X-axis ¹⁾ (Nm)
- M_y = torque of the Y-axis ²⁾ (Nm)
- M_z = Moment um die Z-Achse ²⁾ (Nm)
- M_t = dynamic torsional moment load capacity (Nm)
- M_L = dynamic longitudinal moment load capacity (Nm)
- C = dynamic load capacity (N)
- b = operating factor, (see below)



— For values, see carriage data tables

— For values, see carriage data tables

— For values, see carriage data tables

For values, see table

"Recommended values for operating factors "b".

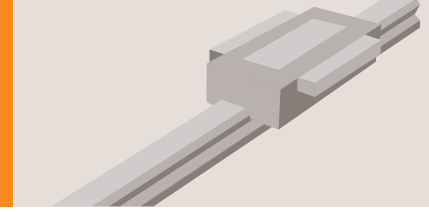
- 1) Torque M_x will only be fully effective in an application with a single guide rail.
- 2) Torque M_y or M_x will only be fully effective when only a single carriage is mounted on one guide rail.

Recommended operating factors b:

Values for operating factors b	
1,0	Clean environment, low technical demands, manual operation
1,5	In a linear motion axis with ball screw drive
2,0	Linear motion axis with toothed belt drive
6,0	Linear motion axis with pneumatic drive
9,0	In very dirty environments

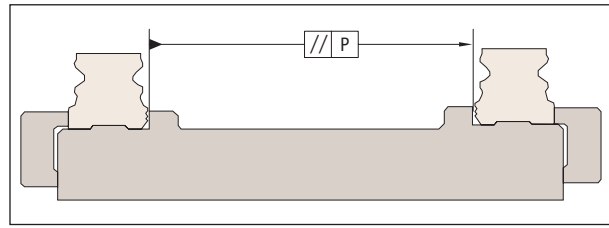
Static load rating

A static load rating can not be easily determined, because of the composite material (aluminium/stainless steel combination). Instead of this, you can find the values F_{max} and M_{max} .



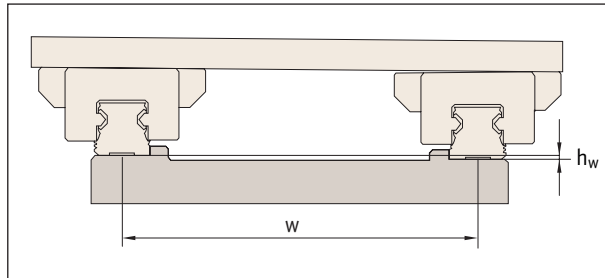
Parallelism

Please note the parallelism is required in the structure for correct installation. Parallelism of the installed rails is measured at the guide rails and the carriages. Any parallelism offset will cause a slight increase in preload on one side of the assembly. As long as values specified in the table are met, the effect of parallelism offsets on the service life can generally be neglected.



Size	Permissible deviation in parallelism P_{max}	
	Standard	Preload
15	0,027	0,018
20	0,031	0,021
25	0,034	0,022

mm



Calculation factor	Standard	Preload
f	$1,2 \cdot 10^{-3}$	$0,75 \cdot 10^{-3}$

Height deviation

Permissible height deviation in lateral direction " h_w "

$$h_w \leq w \cdot f$$

h_w = Allowable height deviation (mm)
 w = Distance between rails (mm)
 f = Calculation factor

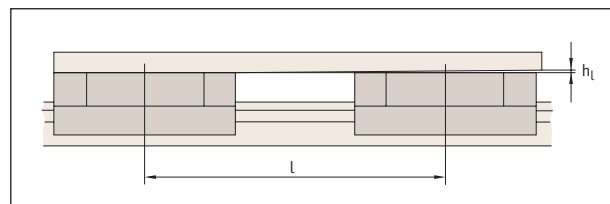
Allowable height deviation in longitudinal direction

Allowable height deviation in longitudinal direction " h_l "

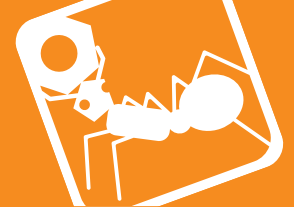
$$h_l \leq b \cdot g$$

h_l = Permissible height deviation (mm)
 b = Distance between carriages (mm)
 g = Calculation factor

$$h_l = L \times [6 \times 10^{-4}]$$



Calculation factor	Standard	Preload
g	6×10^{-4}	$2,1 \times 10^{-4}$

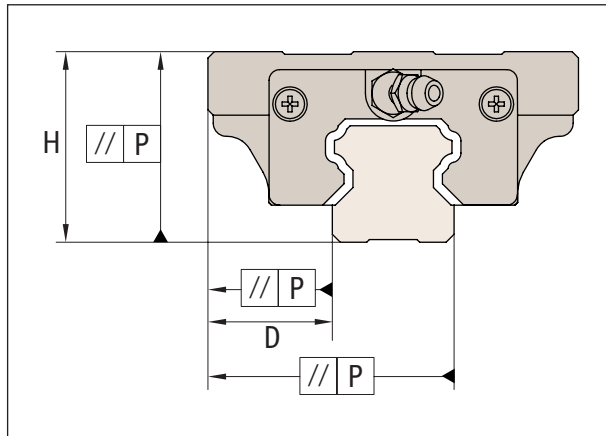


Height tolerance "H"

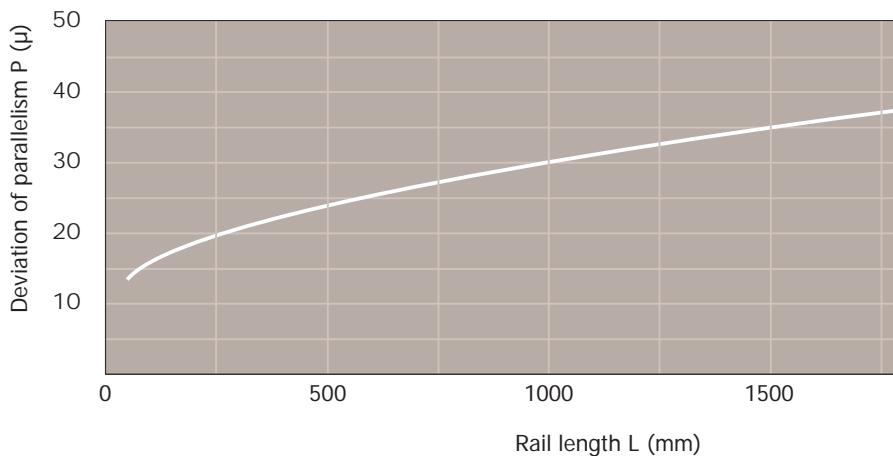
The height tolerance of several carriages on a rail is maximum $\pm 30\mu$. In a combination of several carriages and rails the maximum is $\pm 120\mu$.

Side tolerance "D"

The maximum side tolerance of several carriages on a rail is $\pm 30\mu$. In a combination of several carriages and rails, the maximum is $\pm 70\mu$.



Deviation of parallelism



We aim to achieve a lifetime lubrication, which we define as at least 30,000Km. The following conditions apply:

- Initial greasing with Dynalub 510
- Mounted seal unit
- No exposure to metal-working fluids
- Ambient temperature $T = 20^{\circ}$ to 30°C

First, the ratio F_{comb} / C is calculated with F_{comb} according to the formula on the previous page and the dynamic load rating C from the data tables. With this value you go then in to the diagram below.

If $F_{\text{comb}} / C \leq 0,15$, it lies in the zone A of the diagram below.

This means it will have lifetime lubrication.

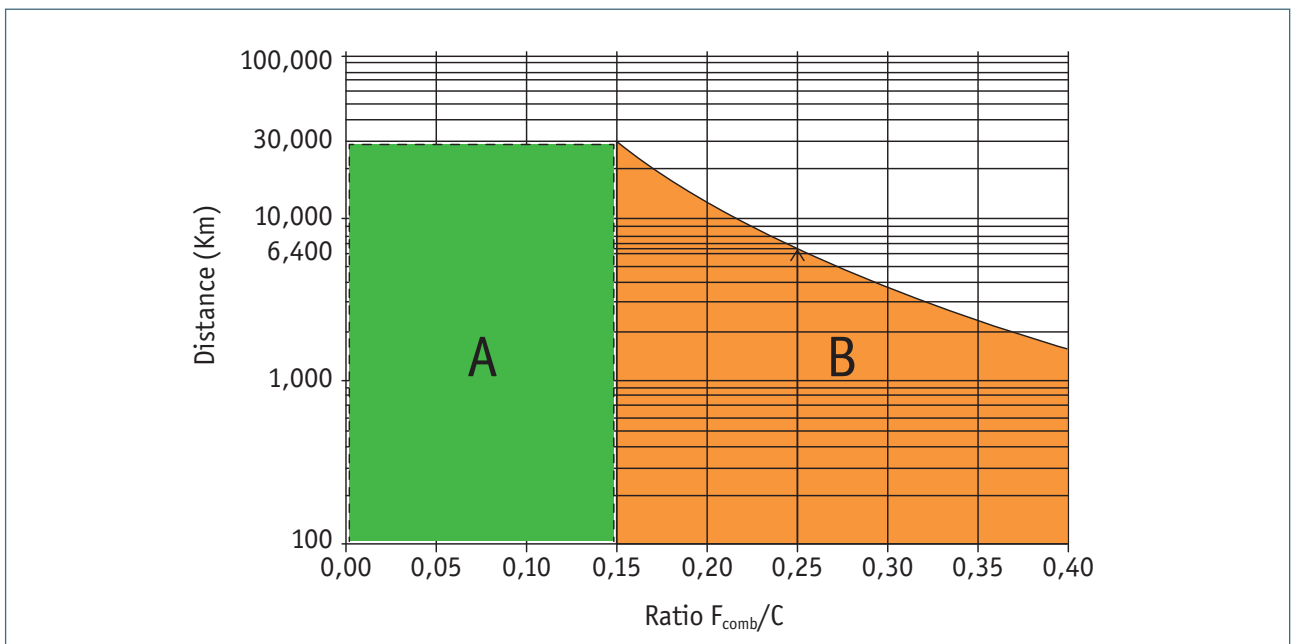
With $0,15 < F_{\text{comb}}/C \leq 0,4$ it lies in the zone B of the diagram below.

For this you must distinguish two cases:

For example $F_{\text{comb}} / C = 0,25$ goes up to 6400km.

- If the running distance required is < 6400 km, then there is a lifetime lubrication here.
- If the running distance required is > 6400 km, then instead of the sealed unit, you should use the lubrication unit option.

If value $F_{\text{comb}}/C > 0,4$ then F_{max} is exceeded.



Note

- Take account of the general service life of lubricants.
- If other lubricants are used, this may lead to a reduction in the re-lubrication intervals, the achievable travel in short-stroke applications and the load capacities. Possible chemical interactions between the plastic materials, lubricants and preservative oils must also be taken into account.
- Do not use greases with solid particles such as graphite or MoS_2 .
- If your application involves more demanding environmental requirements such as clean room, vacuum, food industry, increased exposure to fluids or aggressive media, extreme temperatures, please consult us. These situations must be investigated on a case by case basis and may require the use of a special lubricant.