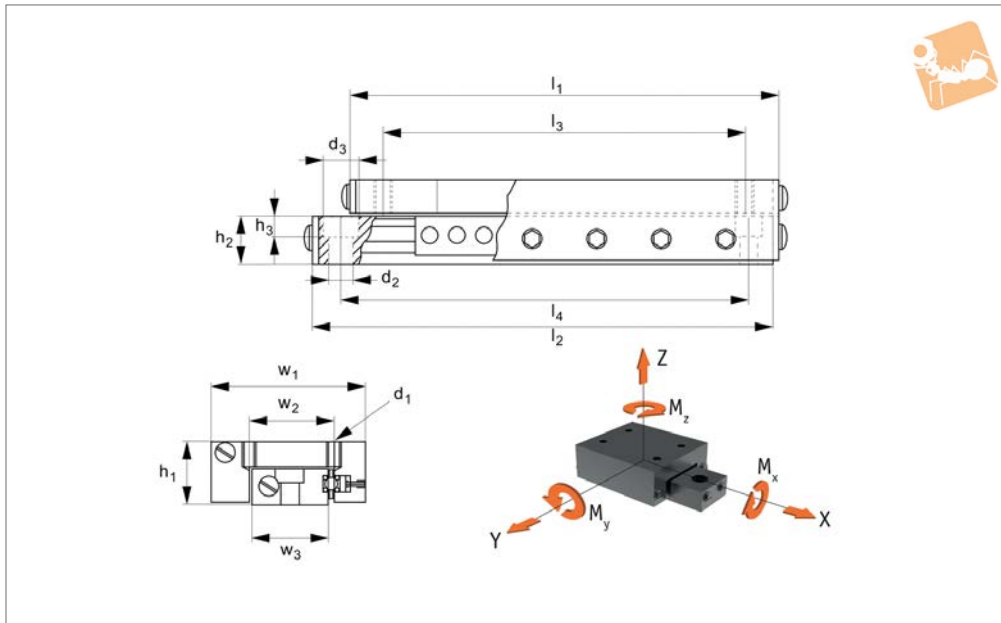




Low Profile Ball Slide Assemblies

high precision

Linear Tables



L1030

LINEAR TABLES

Material

Aluminium carriage and base.
Hardened stainless steel balls, shafts and preload gibs.

Positional repeatability: 0.5μ.
Coefficient of friction: 0,002.
Carriage surface flat to 3μ/25mm. Carriage and base ground to optical flatness.

slides (ie 50% of total stroke each way).

Technical Notes

Straight line accuracy: 1μ/25mm of travel.

Tips

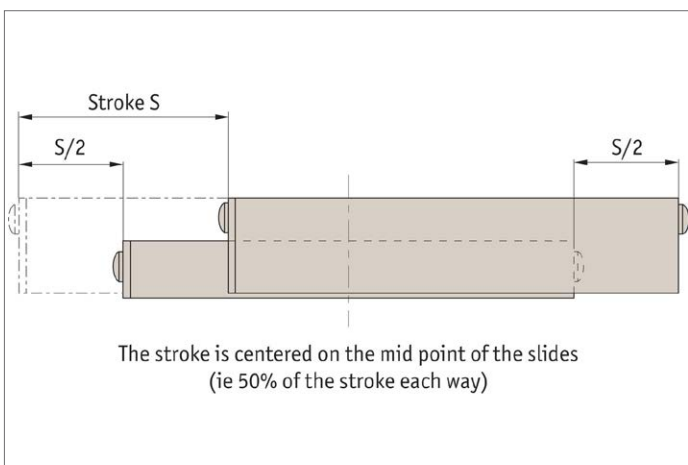
Stroke is centred on the mid-point of the

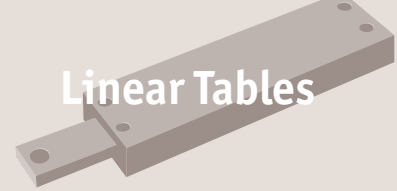
Order No.	Stroke	Load kg max.	w ₁	l ₁	h ₁	l ₂	l ₃	l ₄	w ₂	h ₂	w ₃	Weight g
L1030.025-013	13	3.6	25.4	25.4	12.7	31.8	15	20	CL	6.1	10.2	27
L1030.025-025	25	6.8	25.4	44.5	12.7	50.8	35	40	CL	6.1	10.2	50
L1030.025-038	38	11	25.4	63.5	12.7	69.9	54	57	CL	6.1	10.2	73
L1030.025-050	50	14	25.4	82.6	12.7	88.8	70	75	CL	6.1	10.2	91
L1030.045-025	25	11	44.5	50.8	19.0	57.2	35	40	20	10.2	22.1	127
L1030.045-038	38	14	44.5	69.9	19.0	76.2	54	57	20	10.2	22.1	172
L1030.045-050	50	19	44.5	82.6	19.0	88.9	65	70	20	10.2	22.1	209
L1030.045-075	75	23	44.5	101.6	19.0	108.0	85	90	20	10.2	22.1	254
L1030.067-025	25	33	66.5	66.5	25.4	66.5	54	54	35	15.7	38.1	299
L1030.067-050	50	38	66.5	101.6	25.4	111.0	75	85	35	15.7	38.1	454
L1030.067-075	75	46	66.5	127.0	25.4	136.4	100	110	35	15.7	38.1	567
L1030.067-100	100	60	66.5	152.4	25.4	161.8	125	135	35	15.7	38.1	680
L1030.067-125	125	66	66.5	203.2	25.4	212.6	178	190	35	15.7	38.1	907
L1030.089-050	50	59	88.9	101.6	34.9	114.3	50	65	50	15.7	50.3	907
L1030.089-075	75	64	88.9	146.1	34.9	158.8	95	110	50	15.7	50.3	1306
L1030.089-125	125	73	88.9	203.2	34.9	215.9	150	175	50	15.7	50.3	1814
L1030.089-165	165	79	88.9	260.4	34.9	273.1	210	225	50	15.7	50.3	2327
L1030.089-225	225	91	88.9	355.6	34.9	368.3	305	320	50	15.7	50.3	3175
L1030.146-125	125	68	146.1	209.6	50.8	222.3	150	175	100	24.9	94.0	4536
L1030.146-175	175	82	146.1	304.8	50.8	317.5	250	275	100	24.9	94.0	6586
L1030.146-250	250	102	146.1	381.0	50.8	393.7	330	350	100	24.9	94.0	8233

Order No.	h ₃	d ₁	d ₂	d ₃	Moment M _x Nm max.	Moment M _y Nm max.	Moment M _z Nm max.
L1030.025-013	3.4	M3	3.5	6.1	0.3	0.4	0.40
L1030.025-025	3.4	M3	3.5	6.1	0.4	1.0	1.1
L1030.025-038	3.4	M3	3.5	6.1	0.5	1.8	1.8
L1030.025-050	3.4	M3	3.5	6.1	0.7	2.6	3.7
L1030.045-025	4.6	M4	4.6	8.1	1.0	0.9	0.9



Order No.	h_3	d_1	d_2	d_3	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.
L1030.045-038	4.6	M4	4.6	8.1	1.4	2.0	2.1
L1030.045-050	4.6	M4	4.6	8.1	2.0	3.3	3.5
L1030.045-075	4.6	M4	4.6	8.1	2.5	4.7	4.9
L1030.067-025	5.3	M5	5.8	10.0	4.6	3.8	4.0
L1030.067-050	5.3	M5	5.8	10.0	6.9	9.3	9.8
L1030.067-075	5.3	M5	5.8	10.0	8.4	14.5	15.3
L1030.067-100	5.3	M5	5.8	10.0	10.9	23.0	24.1
L1030.067-125	5.3	M5	5.8	10.0	11.9	34.4	36.1
L1030.089-050	5.3	M5	5.8	10.0	11.1	32.0	33.6
L1030.089-075	5.3	M5	5.8	10.0	12.4	40.3	42.4
L1030.089-125	5.3	M5	5.8	10.0	14.1	52.6	53.7
L1030.089-165	5.3	M5	5.8	10.0	15.2	61.5	64.5
L1030.089-225	5.3	M5	5.8	10.0	16.9	81.1	85.1
L1030.146-125	6.2	M6	7.1	11.0	16.2	60.5	61.8
L1030.146-175	6.2	M6	7.1	11.0	17.5	70.7	74.2
L1030.146-250	6.2	M6	7.1	11.0	19.4	93.2	97.9





Size + Weight

For light/medium loads

L1020-L1037

Ball roller versions



L1024 - L1038

Cross roller versions



L1020 - L1026

Stainless steel versions

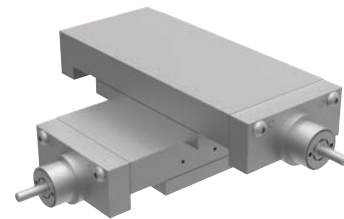


L1022 - L1023

For heavy duty loads and motorised

L3000-L3500

Needle roller & dovetail stage



L3170 - L3194

Motorised stages



L3500 - L3510

Micrometer driven stages

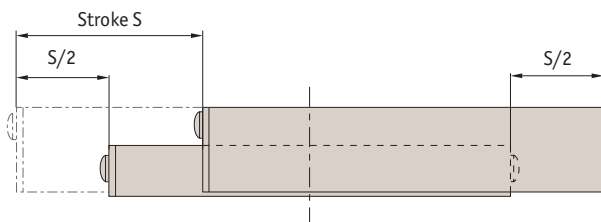


L3100 - L3123



Factors affecting stage selections...

- Size and weight of load
- Moment loads
- Stroke required
- Accuracy required
- Usage conditions of water, chemicals, shock loads etc.



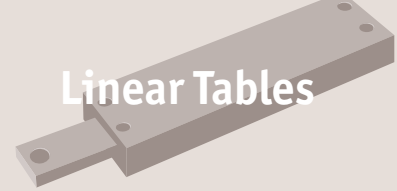
The stroke is centred on the mid point of the slides (i.e. 50% of the stroke each way).

Generally ball slides are less expensive but cross roller slides can carry 8 to 10 times the load of ball slides.

LINEAR TABLES

A selection...

L1020 Crossed roller tables	L1022/23 Cross roller table	L1024 Ball slide tables
 <p>Steel and aluminium, accuracy typically 5µ.</p>	 <p>Stainless Steel, accuracy typically 3µ.</p>	 <p>Aluminium, accuracy typically 12µ.</p>
L1026 Crossed roller slide tables	L1028 Precision ball slide tables	L1029 Precision crossed roller tables
 <p>Aluminium, accuracy typically 5µ.</p>	 <p>Aluminium, accuracy typically 3µ.</p>	 <p>Aluminium, accuracy typically 3µ.</p>
L1034 Flanged ball slide tables - precision	L1038 Anti-creep ball slide tables	L1039 Non-magnetic ball slide
 <p>With flange accuracy to 1µ.</p>	 <p>Special anti-creep function prevents cage misalignment.</p>	 <p>Non-magnetic accuracy typically 3µ.</p>



Steel - L1020

- Standard steel / cast iron



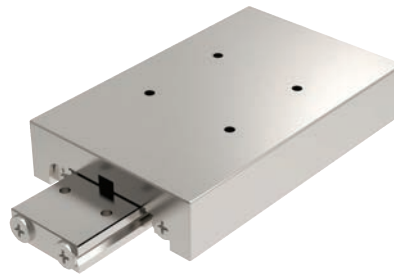
Aluminium - L1021

- Lower weight, lower profile
- Good for high accelerations



Stainless steel - L1022 + L1023

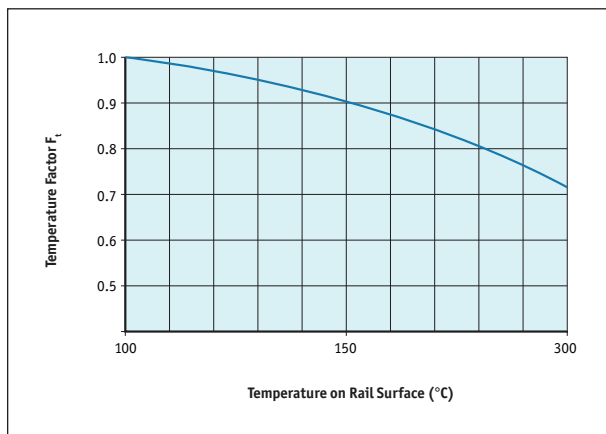
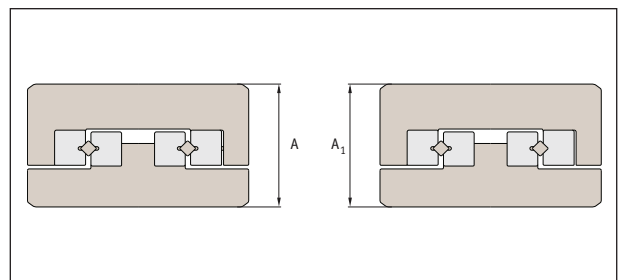
- Stainless steel (440C+Ni) corrosion resistant



Rated life

$$L \text{ (Km)} = \left(\frac{F_t \cdot C}{F_w \cdot P_c} \right)^{3.33} \times 100$$

- F_t = temperature factor
- F_w = load factor
- C = basic dynamic load (kN) see tables
- P_c = radial load (kN)



Height tolerance:

- Height $\pm 100\mu$
- Motorised parts $\pm 10\mu$
- Strokes from 10 to 950mm
- Loads to 48kN

Load factor F_w

Shock	Speed	F_w
None	Very slow	1.0 - 1.2
Small	Slow	1.2 - 1.5



Technical accuracy measurements

- High accuracy.
- Low friction: virtually frictionless. Providing stable performance at lower high speeds.
- Rigid: incorporating cross roller linear rails to provide high load capacity as well as high moment load capacity.
- Installation: easy to install with pre-drilled holes in carriage and base. Ensure mounting surface faces are accurately machined.

LINEAR TABLES

Table accuracy (μ)			Rail accuracy (μ)		
Table length	Carriage top parallelism	Carriage side parallelism	N tolerance	M tolerance	Straightness
0-50	2	4	-15 -35	-30 -70	2
50-100	2	5			2
100-150	3	6			3
150-200	3	7			3
200-250	3	7			3
250-300	3	7			3
300-350	4	8			4
350-400	4	8			4
400-450	4	8			4
450-500	4	8			4
500-550	4	9			4
550-600	4	9			4

