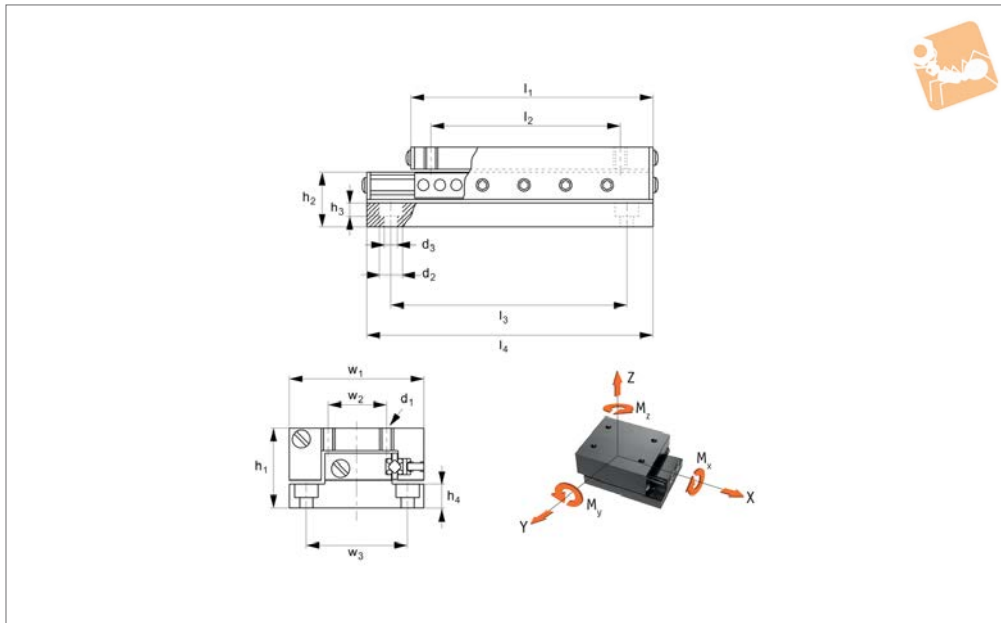




Flanged Ball Slide Assemblies

high precision

Linear Tables



L1034

LINEAR TABLES

Material

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

Technical Notes

Flange base allows easy mounting and

extra stability.

Straight line accuracy: $1\mu/25\text{mm}$ of travel.

Positional repeatability: $0,5\mu$.

Coefficient of friction: $0,002$.

Carriage surface flat to $3\mu/25\text{mm}$.

Carriage and base ground to optical flat-

ness.

Tips

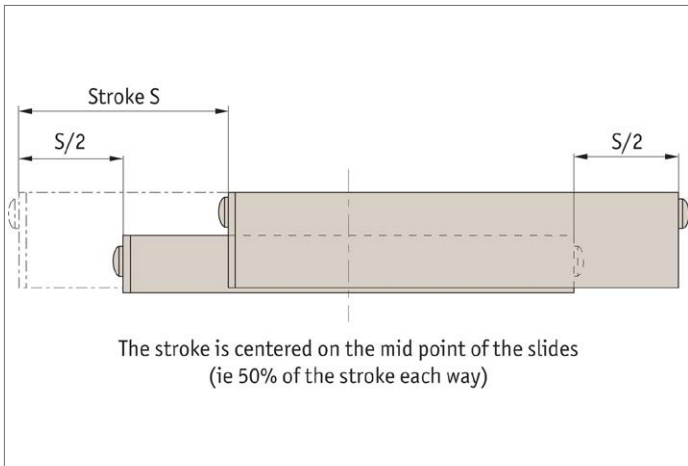
Stroke is centred on the mid-point of the slides (ie 50% of total stroke each way).

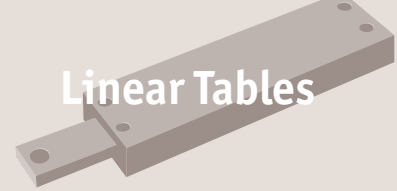
Order No.	Stroke	Load kg max.	w_1	l_1	h_1	l_2	l_3	l_4	w_2	h_2	Weight g
L1034.025-013	13	3.6	25.4	25.4	19.1	15	20	31.8	Centre	12.7	36
L1034.025-025	25	6.8	25.4	44.5	19.1	35	40	50.8	Centre	12.7	64
L1034.025-038	38	11.0	25.4	63.5	19.1	54	57	69.9	Centre	12.7	91
L1034.025-050	50	14.0	25.4	82.6	19.1	70	75	88.9	Centre	12.7	118
L1034.045-025	25	11.0	44.5	50.8	26.2	35	40	57.2	20	17.3	172
L1034.045-038	38	14.0	44.5	69.9	26.2	54	57	76.2	20	17.3	236
L1034.045-050	50	19.0	44.5	82.6	26.2	65	70	88.9	20	17.3	277
L1034.045-075	75	23.0	44.5	101.6	26.2	85	90	108.0	20	17.3	340
L1034.067-025	25	33.0	66.5	66.5	34.9	54	54	66.5	35	25.4	413
L1034.067-050	50	38.0	66.5	101.6	34.9	75	85	111.0	35	25.4	635
L1034.067-075	75	46.0	66.5	127.0	34.9	100	110	136.4	35	25.4	794
L1034.067-100	100	60.0	66.5	152.4	34.9	125	135	161.8	35	25.4	953
L1034.067-125	125	66.0	66.5	203.2	34.9	178	190	212.6	35	25.4	1270
L1034.089-050	50	59.0	88.9	101.6	44.5	50	65	114.3	50	25.0	1134
L1034.089-075	75	64.0	88.9	146.1	44.5	95	110	158.8	50	25.0	1628
L1034.089-125	125	73.0	88.9	203.2	44.5	150	175	215.9	50	25.0	2268
L1034.089-165	165	79.0	88.9	260.4	44.5	210	225	273.1	50	25.0	2908
L1034.089-225	225	91.0	88.9	355.6	44.5	305	320	368.3	50	25.0	3969

Order No.	w_3	h_3	d_1	d_2	d_3	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.
L1034.025-013	19	3.4	M3	6.1	3.5	0.3	0.4	0.4
L1034.025-025	19	3.4	M3	6.1	3.5	0.4	1.0	1.1
L1034.025-038	19	3.4	M3	6.1	3.5	0.5	1.8	1.8
L1034.025-050	19	3.4	M3	6.1	3.5	0.7	2.6	3.7
L1034.045-025	33	4.6	M4	8.1	4.6	1.0	0.9	0.9
L1034.045-038	33	4.6	M4	8.1	4.6	1.4	2.0	2.1
L1034.045-050	33	4.6	M4	8.1	4.6	2.0	3.3	3.5
L1034.045-075	33	4.6	M4	8.1	4.6	2.5	4.7	4.9



Order No.	w ₃	h ₃	d ₁	d ₂	d ₃	Moment M _x Nm max.	Moment M _y Nm max.	Moment M _z Nm max.
L1034.067-025	52	5.3	M5	10.0	5.8	4.6	3.8	4.0
L1034.067-050	52	5.3	M5	10.0	5.8	6.9	9.3	9.8
L1034.067-075	52	5.3	M5	10.0	5.8	8.4	14.5	15.2
L1034.067-100	52	5.3	M5	10.0	5.8	10.8	22.9	24.1
L1034.067-125	52	5.3	M5	10.0	5.8	11.9	34.4	36.1
L1034.089-050	70	5.3	M5	10.0	5.8	11.1	32.0	33.6
L1034.089-075	70	5.3	M5	10.0	5.8	12.3	40.3	42.3
L1034.089-125	70	5.3	M5	10.0	5.8	14.0	52.5	53.7
L1034.089-165	70	5.3	M5	10.0	5.8	15.2	61.4	64.5
L1034.089-225	70	5.3	M5	10.0	5.8	16.8	81.0	85.1





Size + Weight

For light/medium loads

L1020-L1037

Ball roller versions



L1024 - L1038

Cross roller versions



L1020 - L1026

Stainless steel versions

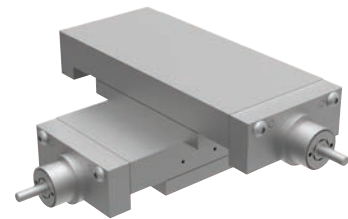


L1022 - L1023

For heavy duty loads and motorised

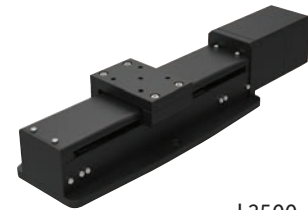
L3000-L3500

Needle roller & dovetail stage



L3170 - L3194

Motorised stages



L3500 - L3510

Micrometer driven stages

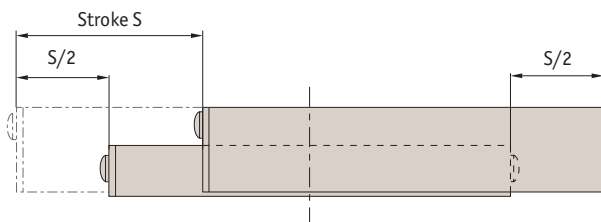


L3100 - L3123



Factors affecting stage selections...

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



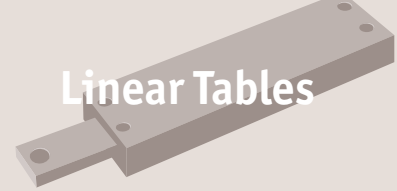
The stroke is centred on the mid point of the slides (i.e. 50% of the stroke each way).

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



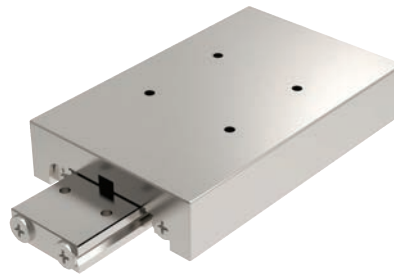
Aluminium - L1021

- Lower weight, lower profile
- Good for high accelerations



Stainless steel - L1022 + L1023

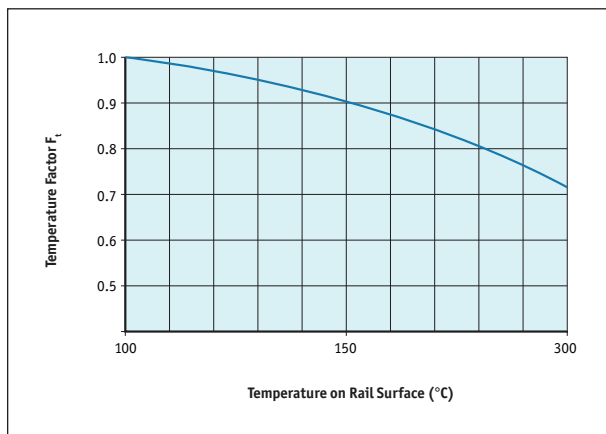
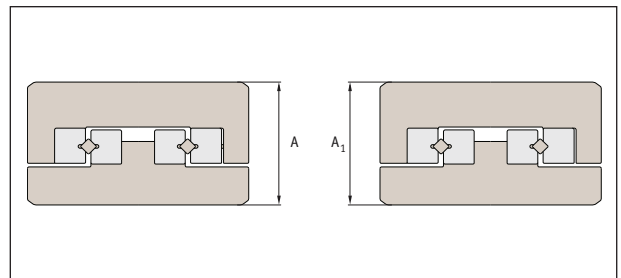
- Stainless steel (440C+Ni) corrosion resistant



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

