

L1039

LINEAR TABLES

Material

Base and carriage aluminium. Titanium shafting gib strips, silicone nitride ceramic balls, brass fasteners.

Technical Notes

Straight line accuracy: $13\mu/25\text{mm}$ travel.

Positional repeatability: 5μ .

Coefficient of friction 0,003 typical.

Tips

Non-magnetic and no lubrication required due to the self-cleaning ball bearing design.

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	w_2	h_2	w_3	l_3	Weight g
L1039.014-013	13	0.5	14.2	27.0	8.0	15.0	6.0	4.7	6.4	19.0	9
L1039.014-025	25	1.1	14.2	52.0	8.0	41.0	6.0	4.7	6.4	35.0	14
L1039.014-050	50	1.6	14.2	78.0	8.0	66.0	6.0	4.7	6.4	60.0	23
L1039.014-075	75	1.9	14.2	103.0	8.0	92.0	6.0	4.7	6.4	86.0	31
L1039.014-100	100	2.2	14.2	128.0	8.0	117.0	6.0	4.7	6.4	89.0	34
L1039.014-127	127	2.5	14.2	154.0	8.0	142.0	6.0	4.7	6.4	114.0	43
L1039.019-013	13	1.1	19.0	27.0	10.4	15.0	9.0	6.3	9.5	19.0	11
L1039.019-025	25	1.4	19.0	52.0	10.4	41.0	9.0	6.3	9.5	35.0	26
L1039.019-050	50	1.6	19.0	78.0	10.4	66.0	9.0	6.3	9.5	60.0	37
L1039.019-075	75	1.9	19.0	103.0	10.4	92.0	9.0	6.3	9.5	86.0	48
L1039.019-100	100	2.2	19.0	128.0	10.4	117.0	9.0	6.3	9.5	89.0	60
L1039.019-127	127	2.5	19.0	154.0	10.4	142.0	9.0	6.3	9.5	114.0	71
L1039.025-013	13	1.4	25.4	40.0	12.7	32.0	10.0	6.3	12.7	32.0	34
L1039.025-025	25	1.6	25.4	65.0	12.7	57.0	10.0	6.3	12.7	57.0	48
L1039.025-038	38	1.8	25.4	78.0	12.7	65.0	10.0	6.3	12.7	65.0	54
L1039.025-050	50	2.1	25.4	90.0	12.7	82.0	10.0	6.3	12.7	82.0	62
L1039.025-075	75	2.5	25.4	116.0	12.7	108.0	10.0	6.3	12.7	108.0	142
L1039.027-019	19	2.1	26.9	40.0	13.4	32.0	10.0	7.9	12.7	28.0	37
L1039.027-038	38	2.5	26.9	65.0	13.4	57.0	10.0	7.9	12.7	54.0	65
L1039.027-050	50	2.7	26.9	90.0	13.4	82.0	10.0	7.9	12.7	79.0	85
L1039.027-075	75	3.4	26.9	116.0	13.4	102.0	10.0	7.9	12.7	82.0	147
L1039.027-100	100	4.1	26.9	152.0	13.4	140.0	10.0	7.9	12.7	102.0	170
L1039.027-150	150	4.8	26.9	203.0	13.4	190.0	10.0	7.9	12.7	127.0	198
L1039.027-200	200	5.4	26.9	254.0	13.4	240.0	10.0	7.9	12.7	178.0	227
L1039.038-025	25	2.1	38.0	51.0	15.8	35.0	16.0	8.6	19.0	37.0	82
L1039.038-050	50	2.7	38.0	76.0	15.8	60.0	16.0	8.6	19.0	60.0	122
L1039.038-075	75	3.4	38.0	102.0	15.8	85.0	16.0	8.6	19.0	85.0	170
L1039.038-088	88	4.1	38.0	127.0	15.8	110.0	16.0	8.6	19.0	85.0	190
L1039.038-100	100	4.8	38.0	152.0	15.8	136.0	16.0	8.6	19.0	100.0	232
L1039.038-150	150	6.1	38.0	203.0	15.8	186.0	16.0	8.6	19.0	128.0	261



LINEAR TABLES

Order No.	Stroke	Load kg max.	w ₁	l ₁	h ₁	l ₂	w ₂	h ₂	w ₃	l ₃	Weight g
L1039.038-200	200	7.5	38.0	254.0	15.8	238.0	16.0	8.6	19.0	178.0	326
L1039.044-025	25	2.7	44.0	51.0	19.0	35.0	20.0	10.2	22.2	38.0	113
L1039.044-038	38	4.1	44.0	70.0	19.0	55.0	20.0	10.2	22.2	55.0	170
L1039.044-050	50	5.7	44.0	83.0	19.0	65.0	20.0	10.2	22.2	65.0	184
L1039.044-075	75	7.0	44.0	102.0	19.0	85.0	20.0	10.2	22.2	85.0	227
L1039.044-100	100	8.2	44.0	152.0	19.0	140.0	20.0	10.2	22.2	100.0	335
L1039.044-150	150	10.2	44.0	203.0	19.0	190.0	20.0	10.2	22.2	126.0	445
L1039.044-200	200	12.3	44.0	254.0	19.0	240.0	20.0	10.2	22.2	178.0	553
L1039.067-025	25	4.1	66.5	67.0	25.4	54.0	35.0	15.9	38.1	54.0	283
L1039.067-038	38	4.8	66.5	67.0	25.4	42.0	35.0	15.9	38.1	42.0	283
L1039.067-050	50	8.5	66.5	102.0	25.4	75.0	35.0	15.9	38.1	75.0	425
L1039.067-075	75	12.0	66.5	127.0	25.4	100.0	35.0	15.9	38.1	100.0	590
L1039.067-100	100	16.1	66.5	152.0	25.4	125.0	35.0	15.9	38.1	125.0	771
L1039.067-127	127	18.4	66.5	203.0	25.4	175.0	35.0	15.9	38.1	187.0	879
L1039.067-150	150	20.5	66.5	229.0	25.4	75.0	35.0	15.9	38.1	178.0	498
L1039.067-228	228	25.2	66.5	305.0	25.4	75.0	35.0	15.9	38.1	254.0	1318
L1039.067-304	304	28.0	66.5	381.0	25.4	75.0	35.0	15.9	38.1	330.0	1644

Order No.	d ₁	d ₂	d ₃	h ₃	Counterbore screw size	Moment M _x	Moment M _y	Moment M _z
						Nm max.	Nm max.	Nm max.
L1039.014-013	M2	2.2	4.0	2.2	M2	0.02	0.03	0.03
L1039.014-025	M2	2.2	4.0	2.2	M2	0.03	0.15	0.15
L1039.014-050	M2	2.2	4.0	2.2	M2	0.06	0.30	0.30
L1039.014-075	M2	2.2	4.0	2.2	M2	0.06	0.45	0.48
L1039.014-100	M2	2.2	4.0	2.2	M2	0.06	0.18	0.63
L1039.014-127	M2	2.2	4.0	2.2	M2	0.09	0.78	0.81
L1039.019-013	M3	3.5	6.1	3.4	M3	0.06	0.06	0.06
L1039.019-025	M3	3.5	6.1	3.4	M3	0.06	0.15	0.18
L1039.019-050	M3	3.5	6.1	3.4	M3	0.09	0.09	0.30
L1039.019-075	M3	3.5	6.1	3.4	M3	0.09	0.45	0.48
L1039.019-100	M3	3.5	6.1	3.4	M3	0.09	0.18	0.63
L1039.019-127	M3	3.5	6.1	3.4	M3	0.12	0.78	0.81
L1039.025-013	M4	3.5	6.1	3.4	M3	0.09	0.12	0.72
L1039.025-025	M4	3.5	6.1	3.4	M3	0.09	0.09	0.09
L1039.025-038	M4	3.5	6.1	3.4	M3	0.12	0.36	0.36
L1039.025-050	M4	3.5	6.1	3.4	M3	0.12	0.45	0.48
L1039.025-075	M4	3.5	6.1	3.4	M3	0.15	0.69	0.72
L1039.027-019	M4	4.6	8.1	4.4	M4	0.12	0.15	0.15
L1039.027-038	M4	4.6	8.1	4.4	M4	0.15	0.36	0.39
L1039.027-050	M4	4.6	8.1	4.4	M4	0.18	0.18	0.63
L1039.027-075	M4	4.6	8.1	4.4	M4	0.21	0.93	0.99
L1039.027-100	M4	4.6	8.1	4.4	M4	0.04	1.53	1.59
L1039.027-150	M4	4.6	8.1	4.4	M4	0.09	2.25	2.37
L1039.027-200	M4	4.6	8.1	4.4	M4	0.36	3.09	3.27
L1039.038-025	M4	4.6	8.1	4.4	M4	0.18	0.21	0.21
L1039.038-050	M4	4.6	8.1	4.4	M4	0.24	0.42	0.42
L1039.038-075	M4	4.6	8.1	4.4	M4	0.09	0.69	0.72
L1039.038-088	M4	4.6	8.1	4.4	M4	0.36	1.11	1.17
L1039.038-100	M4	4.6	8.1	4.4	M4	0.45	1.65	1.74
L1039.038-150	M4	4.6	8.1	4.4	M4	0.57	2.73	2.88
L1039.038-200	M4	4.6	8.1	4.4	M4	0.69	4.08	4.29
L1039.044-025	M4	4.6	8.1	4.4	M4	0.30	0.27	0.27
L1039.044-038	M4	4.6	8.1	4.4	M4	1.1	0.60	0.63
L1039.044-050	M4	4.6	8.1	4.4	M4	0.60	0.99	1.05
L1039.044-075	M4	4.6	8.1	4.4	M4	0.75	1.41	1.47
L1039.044-100	M4	4.6	8.1	4.4	M4	0.87	3.00	3.00
L1039.044-150	M4	4.6	8.1	4.4	M4	1.08	4.56	4.8
L1039.044-200	M4	4.6	8.1	4.4	M4	1.29	6.69	7.02
L1039.067-025	M5	5.8	10.0	5.3	M5	0.75	0.57	0.6
L1039.067-038	M5	5.8	10.0	5.3	M5	0.87	0.57	0.6
L1039.067-050	M5	5.8	10.0	5.3	M5	1.53	2.07	2.16
L1039.067-075	M5	5.8	10.0	5.3	M5	2.16	3.75	3.93
L1039.067-100	M5	5.8	10.0	5.3	M5	2.91	6.15	6.45
L1039.067-127	M5	5.8	10.0	5.3	M5	3.33	9.60	10.08
L1039.067-150	M5	5.8	10.0	5.3	M5	3.69	12.09	12.69
L1039.067-228	M5	5.8	10.0	5.3	M5	4.56	18.42	19.35



Non-Magnetic Ball Slide Assemblies

Linear Tables



Order No.	d_1	d_2	d_3	h_3	Counterbore screw size	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.
L1039.067-304	M5	5.8	10.0	5.3	M5	5.04	24.3	25.53

LINEAR TABLES



Size + Weight

For light/medium loads

L1020-L1037

Ball roller versions



L1024 - L1038

Cross roller versions



L1020 - L1026

Stainless steel versions

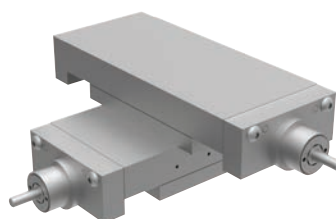


L1022 - L1023

For heavy duty loads and motorised

L3000-L3500

Needle roller & dovetail stage



L3170 - L3194

Motorised stages

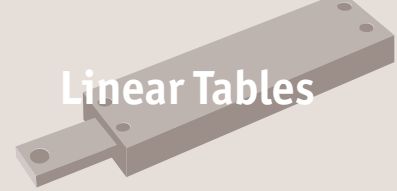


L3500 - L3510

Micrometer driven stages

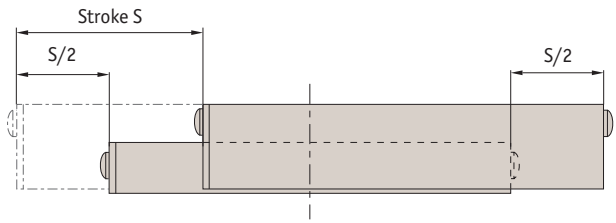


L3100 - L3123



Factors affecting stage selections...

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

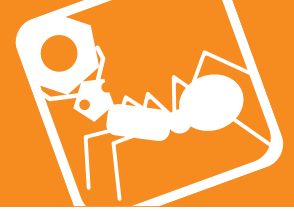


The stroke is centred on the mid point of the slides (i.e. 50% of the stroke each way).

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
 Steel and aluminium, accuracy typically 5µ.	 Stainless Steel, accuracy typically 3µ.	 Aluminium, accuracy typically 12µ.
L1026 Crossed roller slide tables	L1028 Precision ball slide tables	L1029 Precision crossed roller tables
 Aluminium, accuracy typically 5µ.	 Aluminium, accuracy typically 3µ.	 Aluminium, accuracy typically 3µ.
L1034 Flanged ball slide tables - precision	L1038 Anti-creep ball slide tables	L1039 Non-magnetic ball slide
 With flange accuracy to 1µ.	 Special anti-creep function prevents cage misalignment.	 Non-magnetic accuracy typically 3µ.



Steel - L1020

- Standard steel / cast iron



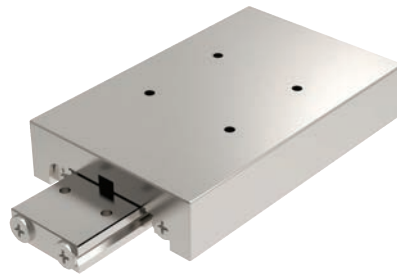
Aluminium - L1021

- Lower weight, lower profile
- Good for high accelerations



Stainless steel - L1022 + L1023

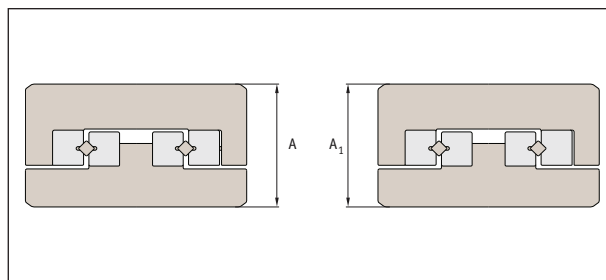
- Stainless steel (440C+Ni) corrosion resistant



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)

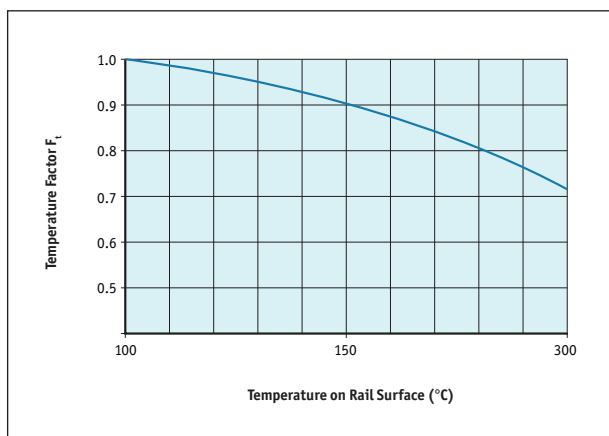


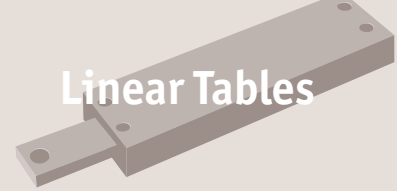
Height tolerance:

- 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.

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

