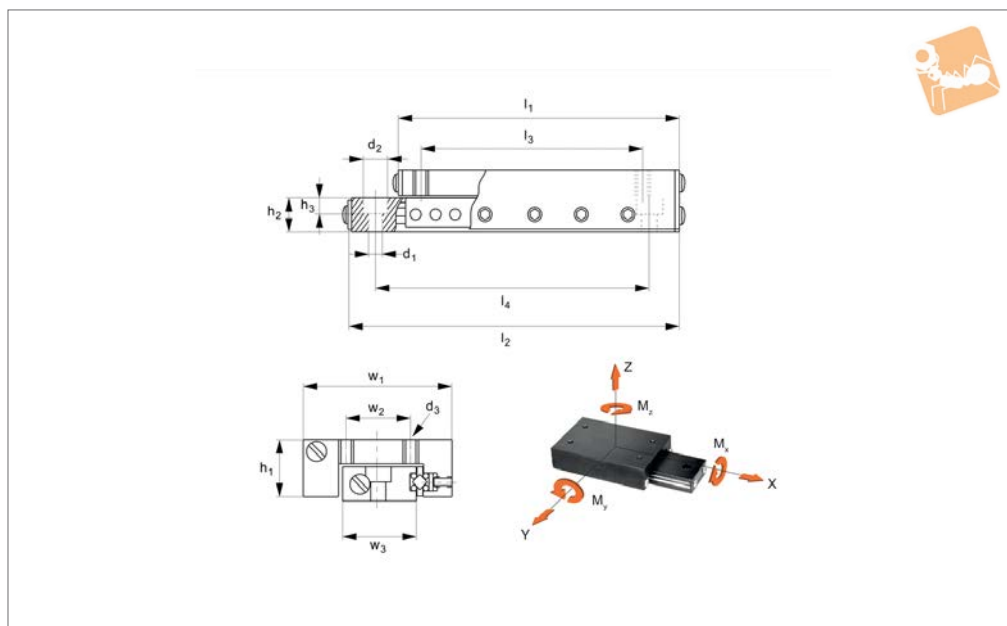




Low Profile Crossed Roller Table

high precision

Linear Tables



L1032

LINEAR TABLES

Material

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

Technical Notes

Crossed roller design greatly increases load

capacity.

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

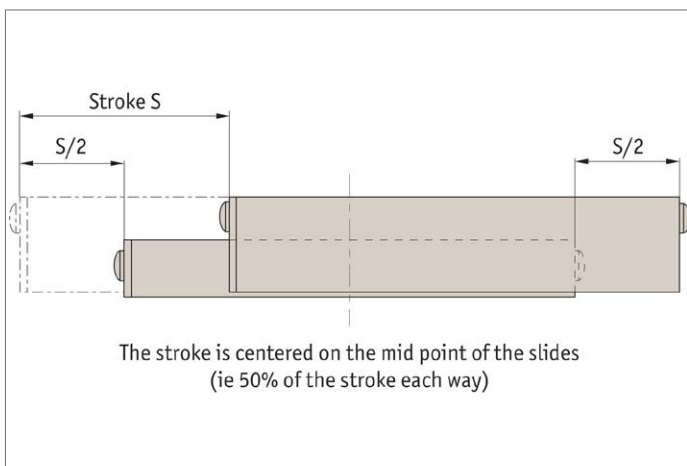
Stroke is centred on the mid-point of the slides (ie 50% of total stroke each way).

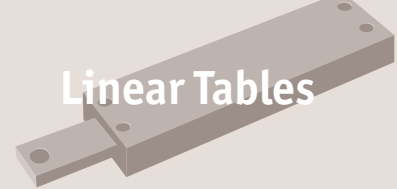
Order No.	Stroke	Load kg max.	w_1	l_1	h_1	l_2	l_3	l_4	w_2	h_2	Weight g
L1032.045-025	25	41	44.5	50.8	19.1	57.2	35	40	20	10.2	127
L1032.045-038	38	52	44.5	69.9	19.1	76.2	54	57	20	10.2	172
L1032.045-050	50	59	44.5	82.6	19.1	88.9	65	70	20	10.2	209
L1032.045-075	75	64	44.5	101.6	19.1	108.0	85	90	20	10.2	254
L1032.067-025	25	100	66.5	66.5	25.4	66.5	54	54	35	15.7	299
L1032.067-050	50	114	66.5	101.6	25.4	111.0	75	85	35	15.7	454
L1032.067-075	75	159	66.5	127.0	25.4	136.4	100	110	35	15.7	567
L1032.067-100	100	177	66.5	152.4	25.4	161.8	125	135	35	15.7	680
L1032.067-125	125	191	66.5	203.2	25.4	212.6	178	190	35	15.7	907
L1032.089-050	50	118	88.9	101.6	44.5	114.3	50	65	50	15.7	907
L1032.089-075	75	127	88.9	146.1	44.5	158.8	95	110	50	15.7	1306
L1032.089-125	125	145	88.9	203.2	44.5	215.9	150	175	50	15.7	1814
L1032.089-165	165	159	88.9	260.4	44.5	273.1	210	225	50	15.7	2327
L1032.089-225	225	182	88.9	355.6	44.5	368.3	305	320	50	15.7	3175
L1032.146-125	125	136	146.1	209.6	60.03	222.3	150	175	100	24.9	4536
L1032.146-175	175	163	146.1	304.8	60.03	317.5	250	275	100	24.9	6586
L1032.146-250	250	204	146.1	381.0	60.03	393.7	330	350	100	24.9	8232

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.
L1032.045-025	22.1	4.6	M4	4.6	8.1	5.0	5.3	5.6
L1032.045-038	22.1	4.6	M4	4.6	8.1	5.6	8.3	8.6
L1032.045-050	22.1	4.6	M4	4.6	8.1	6.7	10.6	11.1
L1032.045-075	22.1	4.6	M4	4.6	8.1	7.8	12.4	12.9
L1032.067-025	38.1	5.3	M5	5.8	10.0	17.8	14.8	15.6
L1032.067-050	38.1	5.3	M5	5.8	10.0	20.3	25.4	26.4
L1032.067-075	38.1	5.3	M5	5.8	10.0	28.3	47.1	49.4
L1032.067-100	38.1	5.3	M5	5.8	10.0	37.6	65.6	68.9
L1032.067-125	38.1	5.3	M5	5.8	10.0	43.2	75.4	79.2



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.
L1032.089-050	50.3	5.3	M5	5.8	10.0	19.4	56.0	5.86
L1032.089-075	50.3	5.3	M5	5.8	10.0	21.6	70.5	74.1
L1032.089-125	50.3	5.3	M5	5.8	10.0	24.5	92.0	93.9
L1032.089-165	50.3	5.3	M5	5.8	10.0	26.6	108	113
L1032.089-225	50.3	5.3	M5	5.8	10.0	29.5	142	149
L1032.146-125	94.0	6.2	M6	7.1	11.0	28.2	106	108
L1032.146-175	94.0	6.2	M6	7.1	11.0	30.6	124	130
L1032.146-250	94.0	6.2	M6	7.1	11.0	33.9	163	171





Size + Weight

For light/medium
loads

L1020-L1037

Ball roller versions



L1024 - L1038

Cross roller versions



L1020 - L1026

Stainless steel versions

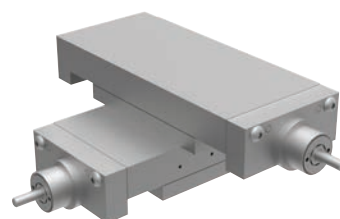


L1022 - L1023

For heavy
duty loads and
motorised

L3000-L3500

Needle roller & dovetail stage



L3170 - L3194

Motorised stages



L3500 - L3510

Micrometer driven stages

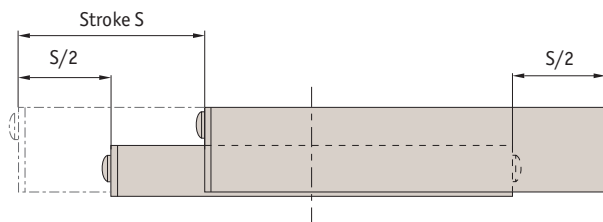


L3100 - L3123



Factors affecting stage selections...

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



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

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

A selection...

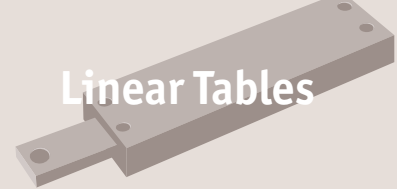
L1020 Crossed roller tables	L1022/23 Cross roller table	L1024 Ball slide tables
 Steel and aluminium, accuracy typically 5µ.	 Stainless Steel, accuracy typically 3µ.	 Aluminium, accuracy typically 12µ.
L1026 Crossed roller slide tables	L1028 Precision ball slide tables	L1029 Precision crossed roller 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.



Cross Roller Linear Tables

Overview

Linear Tables



LINEAR TABLES

Steel - L1020

- Standard steel / cast iron



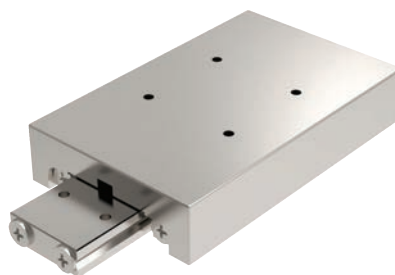
Aluminium - L1021

- Lower weight, lower profile
- Good for high accelerations



Stainless steel - L1022 + L1023

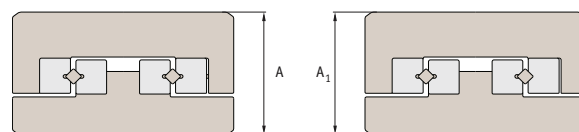
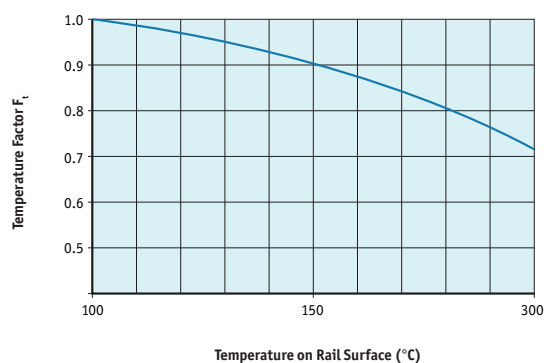
- Stainless steel (440C+Ni) corrosion resistant



Rated life

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

- 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 measurments

- 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

