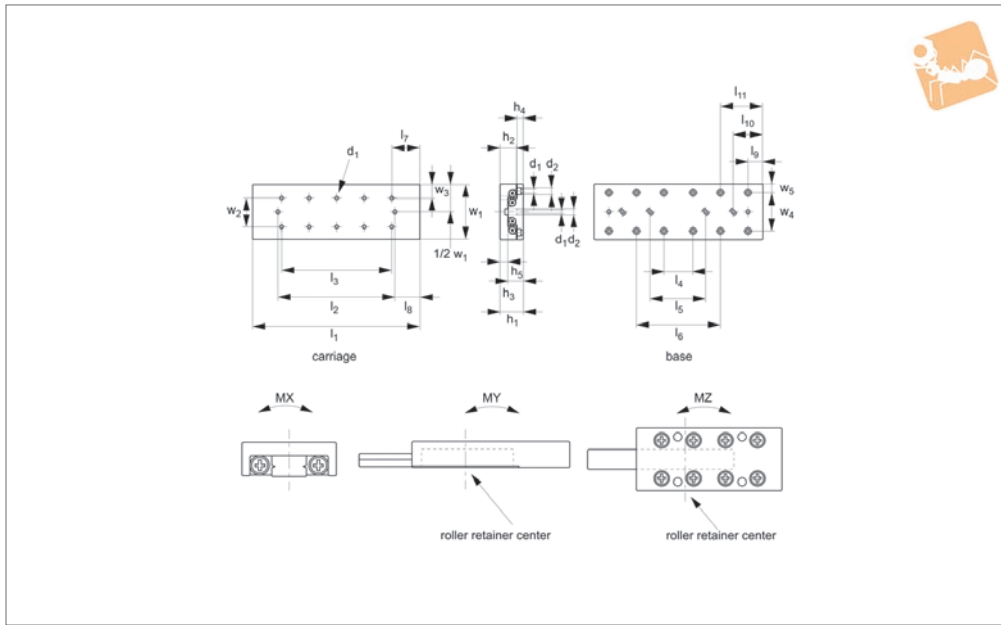




# Stainless Cross Roller Slides

flanged, smaller sizes

## Linear Tables



L1023.web

LINEAR TABLES

### Material

Body stainless steel (440C), nickel plated apart from rail V groove. Retainer stainless

(304), rollers stainless (440C).

Carriage side parallelism 5μ.

### Technical Notes

Carriage top parallelism 3μ.

Order No.	$l_1$	Stroke	Static load $C_0$ kN max.	$w_1$	$l_2$	$h_1$	Roller	$l_{10}$	$l_{11}$	$l_3$	$l_4$	$l_5$	$l_6$	Weight kg
L1023.030-012	25	12	0.57	30	20	17	1.5	-	-	-	18	-	-	0.09
L1023.030-018	35	18	0.86	30	26	17	1.5	-	-	10	28	-	-	0.12
L1023.030-025	45	25	1.1	30	33	17	1.5	-	-	10	38	-	-	0.16
L1023.030-032	55	32	1.4	30	40	17	1.5	-	13.5	10	48	-	28	0.19
L1023.030-040	65	40	1.7	30	48	17	1.5	-	13.5	10	58	-	38	0.23
L1023.030-045	75	45	2.3	30	53	17	1.5	-	13.5	10	68	-	45	0.26
L1023.030-050	85	50	2.6	30	58	17	1.5	-	13.5	10	78	-	58	0.30
L1023.040-018	35	18	1.1	40	29	21	2.0	-	-	-	25	-	-	0.20
L1023.040-030	50	30	4.5	40	41	21	3.0	-	-	15	40	-	-	0.29
L1023.040-040	65	40	4.5	40	51	21	3.0	-	-	15	55	-	-	0.36
L1023.040-050	80	50	7.6	40	61	21	3.0	-	20	15	70	-	40	0.46
L1023.040-060	95	60	6.0	40	71	21	3.0	-	20	15	85	-	55	0.52
L1023.040-070	110	70	9.1	40	81	21	3.0	-	20	15	100	-	70	0.63
L1023.040-080	125	80	9.1	40	91	21	3.0	-	20	15	115	-	85	0.69
L1023.060-030	55	30	4.5	60	44	28	3.0	-	-	-	35	-	-	0.65
L1023.060-045	80	45	7.6	60	59	28	3.0	-	-	25	60	-	-	0.95
L1023.060-060	105	60	10.6	60	74	28	3.0	-	-	25	85	-	-	1.25
L1023.060-075	130	75	12.1	60	89	28	3.0	-	-	25	110	-	-	1.55
L1023.060-090	155	90	15.2	60	104	28	3.0	35	-	25	135	85	-	1.85
L1023.060-105	180	105	18.2	60	119	28	3.0	35	-	25	160	110	-	2.15
L1023.060-130	205	130	19.7	60	144	28	3.0	35	60	25	185	135	85	2.45
L1023.080-050	85	50	9.3	80	64	35	4.0	-	-	-	40	-	-	1.70
L1023.080-075	125	75	14.0	80	89	35	4.0	-	-	40	80	-	-	2.52
L1023.080-105	165	105	16.3	80	119	35	4.0	-	-	40	120	-	-	3.34
L1023.080-135	205	135	21.0	80	149	35	4.0	-	62.5	40	160	-	80	4.14
L1023.080-155	245	155	25.7	80	169	35	4.0	-	62.5	40	200	-	120	4.95
L1023.080-185	285	185	30.4	80	199	35	4.0	-	62.5	40	240	-	160	5.77
L1023.080-215	325	215	35.0	80	229	35	4.0	-	62.5	40	280	-	200	6.57
L1023.100-060	110	60	21.0	100	77	45	6.0	-	-	-	90	-	-	3.48
L1023.100-095	160	95	26.3	100	113	45	6.0	-	-	50	140	-	-	5.10
L1023.100-130	210	130	36.8	100	148	45	6.0	-	60	50	190	-	90	6.72
L1023.100-165	260	165	47.3	100	183	45	6.0	-	60	50	240	-	140	8.31
L1023.100-200	310	200	57.8	100	218	45	6.0	-	60	50	290	-	190	9.95
L1023.100-235	360	235	68.4	100	253	45	6.0	-	60	50	340	-	240	11.53



LINEAR TABLES

Order No.	l <sub>1</sub>	Stroke	Static load C <sub>0</sub> kN max.	w <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	Roller	l <sub>10</sub>	l <sub>11</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	Weight kg
L1023.100-265	410	263	78.9	100	283	45	6.0	-	60	50	390	-	290	13.16
L1023.100-365	510	365	84.6	100	390	45	6.0	-	60	50	490	-	390	16.52
L1023.145-130	210	130	72.7	145	156	60	9.0	-	-	-	100	-	-	13.11
L1023.145-180	310	180	101.8	145	206	60	9.0	-	-	100	200	-	-	19.44
L1023.145-350	410	350	116.3	145	376	60	9.0	155	-	100	300	100	-	25.65
L1023.145-450	510	450	145.4	145	476	60	9.0	155	-	100	400	200	-	31.97
L1023.145-550	610	610	160.0	145	576	60	9.0	155	-	100	500	300	-	38.22

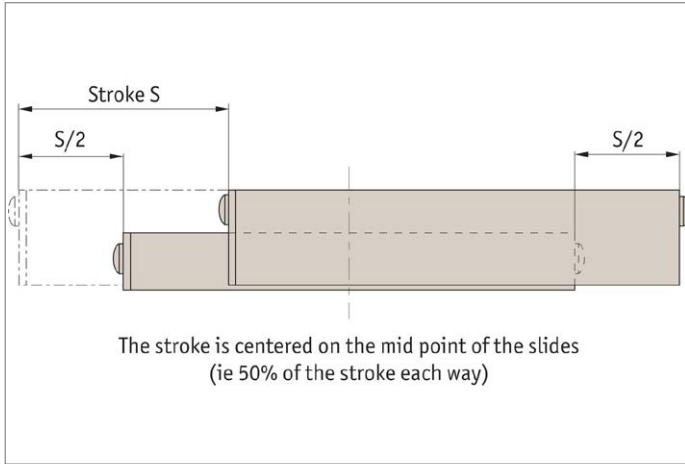
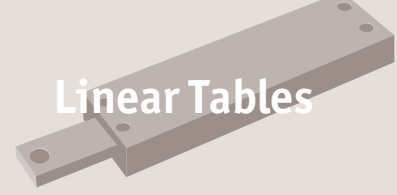
Order No.	l <sub>7</sub>	l <sub>8</sub>	l <sub>9</sub>	w <sub>2</sub>	w <sub>3</sub>	w <sub>4</sub>	w <sub>5</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	d <sub>1</sub>	Allowable load kN max.	Dyn. load C kN max.	Moment M <sub>x</sub> Nm max.	Moment M <sub>y</sub> Nm max.	Moment M <sub>z</sub> Nm max.
L1023.030-012	12.5	2.5	3.5	10	10	22	4	11	10	5.5	2.55	0.19	0.38	2.6	1.2	1.4
L1023.030-018	12.5	4.5	3.5	10	10	22	4	11	10	5.5	2.55	0.28	0.52	3.9	2.6	3.0
L1023.030-025	12.5	6	3.5	10	10	22	4	11	10	5.5	2.55	0.38	0.65	5.2	4.6	5.2
L1023.030-032	12.5	7.5	3.5	10	10	22	4	11	10	5.5	2.55	0.48	0.78	6.5	7.2	7.9
L1023.030-040	12.5	8.5	3.5	10	10	22	4	11	10	5.5	2.55	0.57	0.90	7.8	10.4	11.2
L1023.030-045	12.5	11	3.5	10	10	22	4	11	10	5.5	2.55	0.77	1.1	10.4	18.4	17.3
L1023.030-050	12.5	13.5	3.5	10	10	22	4	11	10	5.5	2.55	0.86	1.2	11.7	23.3	22.0
L1023.040-018	17.5	3	5	15	12.5	30	5	8	13	6.5	3.5	0.39	0.89	7.0	3.1	3.9
L1023.040-030	17.5	4.5	5	15	12.5	30	5	14	14	5.5	3.5	1.5	2.9	42.6	22.8	26.6
L1023.040-040	17.5	7	5	15	12.5	30	5	14	14	5.5	3.5	1.5	2.9	42.6	22.8	19.0
L1023.040-050	17.5	9.5	5	15	12.5	30	5	14	14	5.5	3.5	2.5	4.3	71.0	63.4	57.1
L1023.040-060	17.5	12	5	15	12.5	30	5	14	14	5.5	3.5	2.0	3.6	56.8	40.6	45.7
L1023.040-070	17.5	14.5	5	15	12.5	30	5	14	14	5.5	3.5	3.0	5.0	85.2	91.3	98.9
L1023.040-080	17.5	17	5	15	12.5	30	5	14	14	5.5	3.5	3.0	5.0	85.2	91.3	83.7
L1023.060-030	27.5	5.5	10	25	17.5	40	10	18.5	17.5	9	4.5	1.5	2.9	46.6	22.8	26.6
L1023.060-045	27.5	10.8	10	25	17.5	40	10	18.5	17.5	9	4.5	2.5	4.3	71.0	63.4	57.1
L1023.060-060	27.5	15.5	10	25	17.5	40	10	18.5	17.5	9	4.5	3.5	5.6	99.5	124	115
L1023.060-075	27.5	20.8	10	25	17.5	40	10	18.5	17.5	9	4.5	4.0	6.2	113	162	172
L1023.060-090	27.5	25.5	10	25	17.5	40	10	18.5	17.5	9	4.5	5.0	7.4	142	253	266
L1023.060-105	27.5	30.5	10	25	17.5	40	10	18.5	17.5	9	4.5	6.0	8.6	170	365	350
L1023.060-130	27.5	30.5	10	25	17.5	40	10	18.5	17.5	9	4.5	6.6	9.1	184	428	445
L1023.080-050	42.5	10.5	22.5	40	20	60	10	24	22	10.5	5.5	3.1	6.6	124	87	76
L1023.080-075	42.5	18	22.5	40	20	60	10	24	22	10.5	5.5	4.6	9.0	187	196	180
L1023.080-105	42.5	23	22.5	40	20	60	10	24	22	10.5	5.5	5.4	10.2	218	267	286
L1023.080-135	42.5	28	22.5	40	20	60	10	24	22	10.5	5.5	7.0	12.4	280	442	466
L1023.080-155	42.5	38	22.5	40	20	60	10	24	22	10.5	5.5	8.5	14.6	343	660	690
L1023.080-185	42.5	43	22.5	40	20	60	10	24	22	10.5	5.5	10.1	16.6646	405	922	957
L1023.080-215	42.5	48	22.5	40	20	60	10	24	22	10.5	5.5	11.6	18.6	467	1228	1187
L1023.100-060	55	16.5	10	50	25	60	20	31	29	13	7	7.0	13.9	315	252	221
L1023.100-095	55	23.5	10	50	25	60	20	31	29	13	7	8.7	16.5	394	394	434
L1023.100-130	55	31	10	50	25	60	20	31	29	13	7	12.2	21.5	552	773	828
L1023.100-165	55	38.5	10	50	25	60	20	31	29	13	7	15.7	26.2	710	1279	1207
L1023.100-200	55	46	10	50	25	60	20	31	29	13	7	19.2	30.7	868	1910	1823
L1023.100-235	55	53.5	10	50	25	60	20	31	29	13	7	22.8	25.0	1026	2668	2565
L1023.100-265	55	63.5	10	50	25	60	20	31	29	13	7	26.3	39.1	1184	3552	3434
L1023.100-365	55	60	10	50	25	60	20	31	29	13	7	28.2	45.1	1269	4568	4441.
L1023.145-130	105	27	55	85	30	90	27.5	43	38.5	16	9	24.2	72.7	1745	1697	1527
L1023.145-180	105	52	55	85	30	90	27.5	43	38.5	16	9	33.9	101.8	2444	3326	3564
L1023.145-350	105	12	55	85	30	90	27.5	43	38.5	16	9	38.7	116.3	2793	4345	4073
L1023.145-450	105	17	55	85	30	90	27.5	43	38.5	16	9	48.4	145.4	3491	6789	6449
L1023.145-550	105	17	55	85	30	90	27.5	43	38.5	16	9	53.3	160.0	3840	8214	8588



# Stainless Cross Roller Slides

flanged, smaller sizes

## Linear Tables





### Size + Weight

For light/medium loads

L1020-L1037

Ball roller versions



L1024 - L1038

Cross roller versions



L1020 - L1026

Stainless steel versions

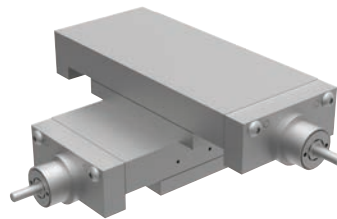


L1022 - L1023

For heavy duty loads and motorised

L3000-L3500

Needle roller & dovetail stage



L3170 - L3194

Motorised stages

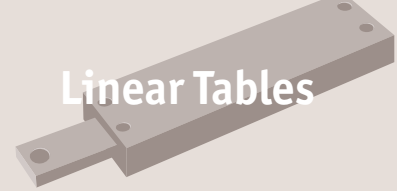


L3500 - L3510

Micrometer driven stages

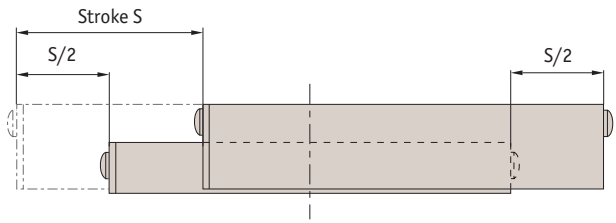


L3100 - L3123



### Factors affecting stage selections...


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



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).

LINEAR TABLES

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



### Steel - L1020

- Standard steel / cast iron



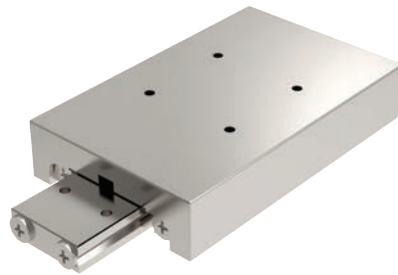
### Aluminium - L1021

- Lower weight, lower profile
- Good for high accelerations



### Stainless steel - L1022 + L1023

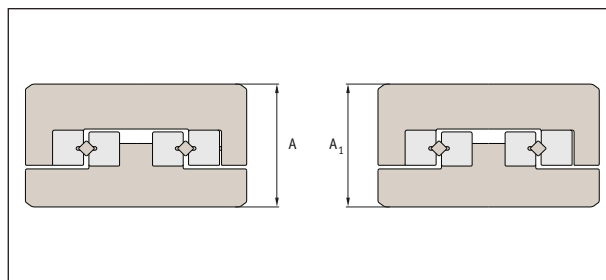
- Stainless steel (440C+Ni) corrosion resistant



### 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)

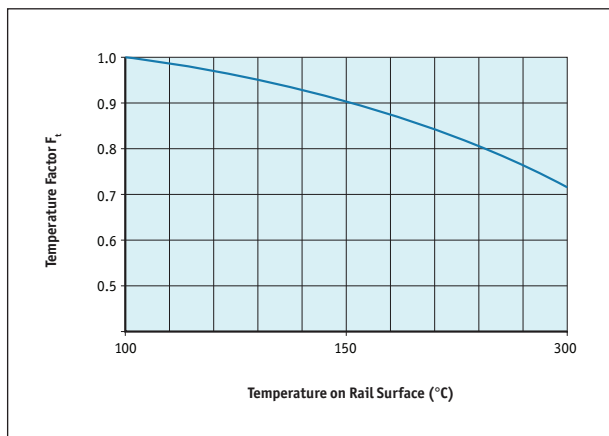


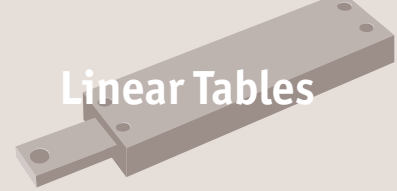
### Height tolerance:

- 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.

Table length	Table accuracy ( $\mu$ )		Rail accuracy ( $\mu$ )		
	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

