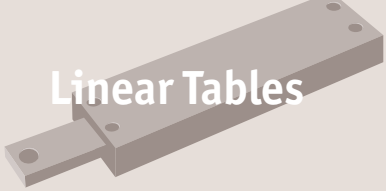


Size + Weight

For light/medium loads

L1020-L1037

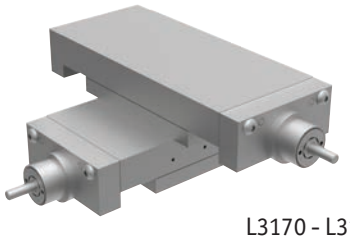
For heavy duty loads and motorised

L3000-L3500

Ball roller versions

L1024 - L1038

Needle roller & dovetail stage

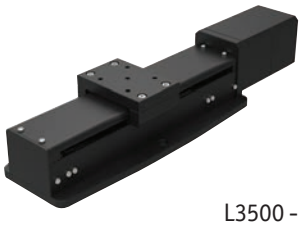


L3170 - L3194

Cross roller versions

L1020 - L1026

Motorised stages



L3500 - L3510

Stainless steel versions

L1022 - L1023

Micrometer driven stages

L3100 - L3123

Automotion AN ESSENTRA COMPANY
0333 207 4498
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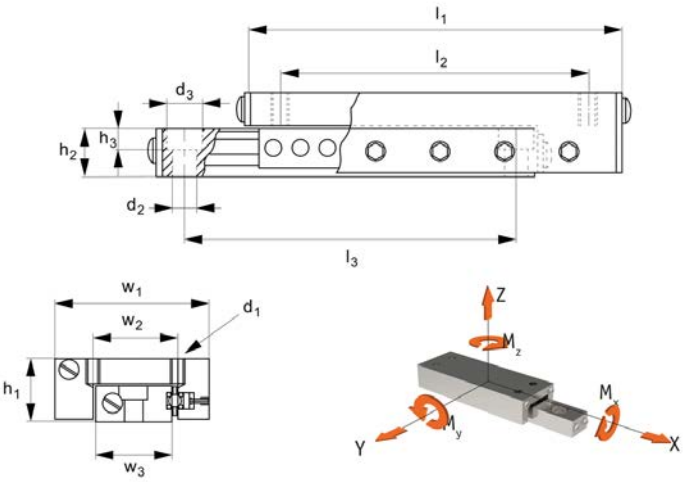
Anti-Creep Ball Slide Assemblies

L1038



Material
Aluminium carriage (clear anodized) and base (black anodized).
Hardened stainless steel balls, shafts and preload gibs.

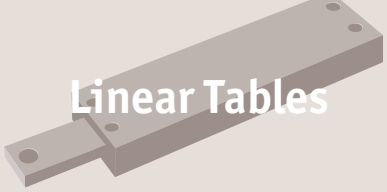
Technical Notes
Straight line accuracy: 13µ/25mm of travel.
Positional repeatability: 5µ.
Coefficient of friction: 0,003.
Increased life with overhanging loads.
Low friction, straight line design.
Factory preload controls side play and backlash.
Particularly useful for vertical applications.

Tips
In certain applications - uneven loads, vertical mounting or offset forces can cause standard ball retainers to become misaligned - leading eventually to a reduction in travel, the need for higher forces for full travel and ultimately failure of the assembly.
The anti-creep retainer used in these units prevents ball retainer misalignment and helps keep the rolling elements centred in the assembly - increasing assembly life and performance.
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
L1038.010-013	13	0.7	9.7	19.0	5.8	13.0	4.0	3.4	4.0	10.0	3
L1038.010-025	25	0.7	9.7	32.0	5.8	26.0	4.0	3.4	4.0	20.0	4
L1038.010-038	38	0.7	9.7	44.0	5.8	37.0	4.0	3.4	4.0	30.0	7
L1038.014-013	13	2	14.2	27.0	8.0	15.0	6.0	4.7	6.4	19.0	9
L1038.014-025	25	4	14.2	52.0	8.0	41.0	6.0	4.7	6.4	35.0	14
L1038.014-050	50	5	14.2	78.0	8.0	66.0	6.0	4.7	6.4	60.0	23
L1038.014-075	75	6	14.2	103.0	8.0	92.0	6.0	4.7	6.4	86.0	31
L1038.014-100	100	8	14.2	128.0	8.0	117.0	6.0	4.7	6.4	89.0	34
L1038.014-127	127	8	14.2	154.0	8.0	142.0	6.0	4.7	6.4	114.0	43
L1038.019-013	13	4	19.0	27.0	10.4	15.0	9.0	6.3	9.5	19.0	11
L1038.019-025	25	5	19.0	52.0	10.4	41.0	9.0	6.3	9.5	35.0	26
L1038.019-050	50	5	19.0	78.0	10.4	660	9.0	6.3	9.5	60.0	37
L1038.019-075	75	6	19.0	103.0	10.4	92.0	9.0	6.3	9.5	86.0	48
L1038.019-100	100	7	19.0	128.0	10.4	117.0	9.0	6.3	9.5	89.0	60
L1038.019-127	127	8	19.0	154.0	10.4	142.0	9.0	6.3	9.5	114.0	71
L1038.025-013	13	5	25.4	40.0	12.7	32.0	10.0	6.3	12.7	32.0	34
L1038.025-025	25	5	25.4	65.0	12.7	57.0	10.0	6.3	12.7	57.0	48
L1038.025-038	38	6	25.4	78.0	12.7	65.0	10.0	6.3	12.7	65.0	54
L1038.025-050	50	7	25.4	90.0	12.7	82.0	10.0	6.3	12.7	82.0	62
L1038.025-075	75	8	25.4	116.0	12.7	108.0	10.0	6.3	12.7	108.0	142
L1038.027-019	19	7	26.9	40.0	13.4	32.0	10.0	7.9	12.7	28.0	37
L1038.027-038	38	8	26.9	65.0	13.4	57.0	10.0	7.9	12.7	54.0	65
L1038.027-050	50	9	26.9	90.0	13.4	82.0	10.0	7.9	12.7	79.0	85
L1038.027-075	75	11	26.9	116.0	13.4	102.0	10.0	7.9	12.7	82.0	147
L1038.027-100	100	14	26.9	152.0	13.4	140.0	10.0	7.9	12.7	102.0	170

Order No.	Stroke	Load kg max.	w_1	l_1	h_1	l_2	w_2	h_2	w_3	l_3	Weight g
L1038.027-150	150	16	26.9	203.0	13.4	190.0	10.0	7.9	12.7	127.0	198
L1038.027-200	200	18	26.9	254.0	13.4	240.0	10.0	7.9	12.7	178.0	227
L1038.038-025	25	7	38.0	51.0	15.8	35.0	16.0	8.6	19.0	37.0	82
L1038.038-050	50	9	38.0	76.0	15.8	60.0	16.0	8.6	19.0	60.0	122
L1038.038-075	75	11	38.0	102.0	15.8	85.0	16.0	8.6	19.0	85.0	170
L1038.038-088	88	14	38.0	127.0	15.8	110.0	16.0	8.6	19.0	85.0	190
L1038.038-100	100	16	38.0	152.0	15.8	136.0	16.0	8.6	19.0	100.0	232
L1038.038-150	150	20	38.0	203.0	15.8	186.0	16.0	8.6	19.0	128.0	261
L1038.038-200	200	25	38.0	254.0	15.8	238.0	16.0	8.6	19.0	178.0	326
L1038.045-025	25	9	44.0	51.0	19.0	35.0	20.0	10.2	22.2	38.0	113
L1038.045-038	38	14	44.0	70.0	19.0	55.0	20.0	10.2	22.2	55.0	170
L1038.045-050	50	19	44.0	83.0	19.0	65.0	20.0	10.2	22.2	65.0	184
L1038.045-075	75	24	44.0	102.0	19.0	85.0	20.0	10.2	22.2	85.0	227
L1038.045-100	100	27	44.0	152.0	19.0	140.0	20.0	10.2	22.2	100.0	335
L1038.045-150	150	34	44.0	203.0	19.0	190.0	20.0	10.2	22.2	126.0	445
L1038.045-200	200	41	44.0	254.0	19.0	240.0	20.0	10.2	22.2	178.0	553
L1038.067-025	25	14	66.5	67.0	25.4	54.0	35.0	15.9	38.1	54.0	283
L1038.067-038	38	16	66.5	67.0	25.4	42.0	35.0	15.9	38.1	42.0	283
L1038.067-050	50	28	66.5	102.0	25.4	75.0	35.0	15.9	38.1	75.0	425
L1038.067-075	75	40	66.5	127.0	25.4	100.0	35.0	15.9	38.1	100.0	590
L1038.067-100	100	54	66.5	152.0	25.4	125.0	35.0	15.9	38.1	125.0	771
L1038.067-127	127	61	66.5	203.0	25.4	175.0	35.0	15.9	38.1	187.0	879
L1038.067-150	150	68	66.5	229.0	25.4	75.0	35.0	15.9	38.1	178.0	498
L1038.067-228	228	84	66.5	305.0	25.4	75.0	35.0	15.9	38.1	254.0	1318
L1038.067-304	304	93	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	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.	Counterbore screw size
L1038.010-013	M2	M2	-	-	0.1	0.2	0.2	-
L1038.010-025	M2	M2	-	-	0.1	0.3	0.3	-
L1038.010-038	M2	M2	-	-	0.1	0.5	0.5	-
L1038.014-013	M2	2.2	4.0	2.2	0.5	1.0	1.0	M2
L1038.014-025	M2	2.2	4.0	2.2	1.2	4.5	4.7	M2
L1038.014-050	M2	2.2	4.0	2.2	1.5	8.64	9.1	M2
L1038.014-075	M2	2.2	4.0	2.2	1.8	13.4	14.1	M2
L1038.014-100	M2	2.2	4.0	2.2	2.0	17.9	18.8	M2
L1038.014-127	M2	2.2	4.0	2.2	2.3	23.0	24.2	M2
L1038.019-013	M3	3.5	6.1	3.4	1.5	1.9	2.0	M3
L1038.019-025	M3	3.5	6.1	3.4	1.9	4.8	5.0	M3
L1038.019-050	M3	3.5	6.1	3.4	2.3	8.6	9.1	M3
L1038.019-075	M3	3.5	6.1	3.4	2.7	13.4	14.1	M3
L1038.019-100	M3	3.5	6.1	3.4	3.1	17.9	18.8	M3
L1038.019-127	M3	3.5	6.1	3.4	3.5	23.0	24.1	M3
L1038.025-013	M4	3.5	6.1	3.4	2.5	3.3	3.5	M3
L1038.025-025	M4	3.5	6.1	3.4	3.0	8.6	9.1	M3
L1038.025-038	M4	3.5	6.1	3.4	3.2	10.4	10.9	M3
L1038.025-050	M4	3.5	6.1	3.4	3.7	13.2	13.9	M3
L1038.025-075	M4	3.5	6.1	3.4	4.5	20.2	21.2	M3
L1038.027-019	M4	4.6	6.1	4.4	3.8	4.5	4.7	M4
L1038.027-038	M4	4.6	6.1	4.4	4.6	10.8	11.3	M4
L1038.027-050	M4	4.6	6.1	4.4	5.3	18.0	18.9	M4
L1038.027-075	M4	4.6	6.1	4.4	6.4	27.5	28.9	M4
L1038.027-100	M4	4.6	6.1	4.4	7.7	45.0	47.3	M4
L1038.027-150	M4	4.6	6.1	4.4	9.0	66.5	69.8	M4
L1038.027-200	M4	4.6	6.1	4.4	10.2	92.0	96.6	M4
L1038.038-025	M4	4.6	8.1	4.4	M4	5.6	6.0	6.3
L1038.038-050	M4	4.6	8.1	4.4	M4	7.4	12.0	12.6
L1038.038-075	M4	4.6	8.1	4.4	M4	9.2	20.0	21.0
L1038.038-088	M4	4.6	8.1	4.4	M4	11.1	33.0	34.6
L1038.038-100	M4	4.6	8.1	4.4	M4	12.9	49.0	51.4
L1038.038-150	M4	4.6	8.1	4.4	M4	16.6	81.0	85.0
L1038.038-200	M4	4.6	8.1	4.4	M4	20.3	121	127
L1038.045-025	M4	4.6	8.1	4.4	M4	8.5	8.0	8.4
L1038.045-038	M4	4.6	8.1	4.4	M4	12.8	18.0	18.9
L1038.045-050	M4	4.6	8.1	4.4	M4	17.9	29.4	30.9
L1038.045-075	M4	4.6	8.1	4.4	M4	22.1	41.6	43.7

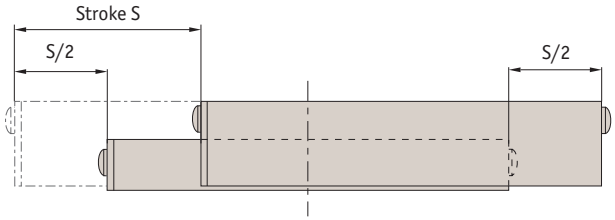


Anti-Creep Ball Slide Assemblies

Order No.	d_1	d_2	d_3	h_3	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.	Counterbore screw size
L1038.045-100	M4	4.6	8.1	4.4	M4	25.5	84.0	88.2
L1038.045-150	M4	4.6	8.1	4.4	M4	31.9	135	141
L1038.045-200	M4	4.6	8.1	4.4	M4	38.3	198	207
L1038.067-025	M5	5.8	10.0	5.3	M5	21.9	16.8	17.6
L1038.067-038	M5	5.8	10.0	5.3	M5	25.5	16.8	17.6
L1038.067-050	M5	5.8	10.0	5.3	M5	45.2	60.8	63.8
L1038.067-075	M5	5.8	10.0	5.3	M5	64.1	110.9	116.4
L1038.067-100	M5	5.8	10.0	5.3	M5	86.0	181	190
L1038.067-127	M5	5.8	10.0	5.3	M5	98.4	283	297
L1038.067-150	M5	5.8	10.0	5.3	M5	109.3	357	374
L1038.067-228	M5	5.8	10.0	5.3	M5	134.9	543	571
L1038.067-304	M5	5.8	10.0	5.3	M5	149.4	717	753

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.

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

Steel - L1020

- Standard steel / cast iron

Aluminium - L1021

- Lower weight, lower profile
- Good for high accelerations

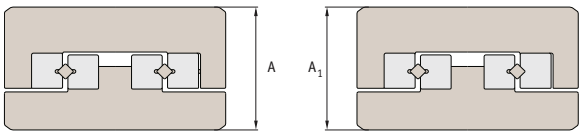
Stainless steel - L1022 + L1023

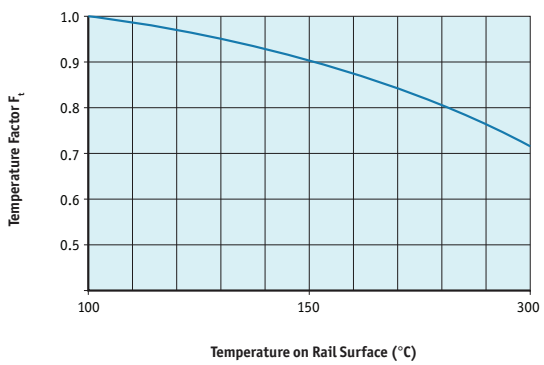
- Stainless steel (440C+Ni) corrosion resistant

Rated life

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

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





Height tolerance:

- Height ±100µ
- Motorised parts ±10µ
- 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