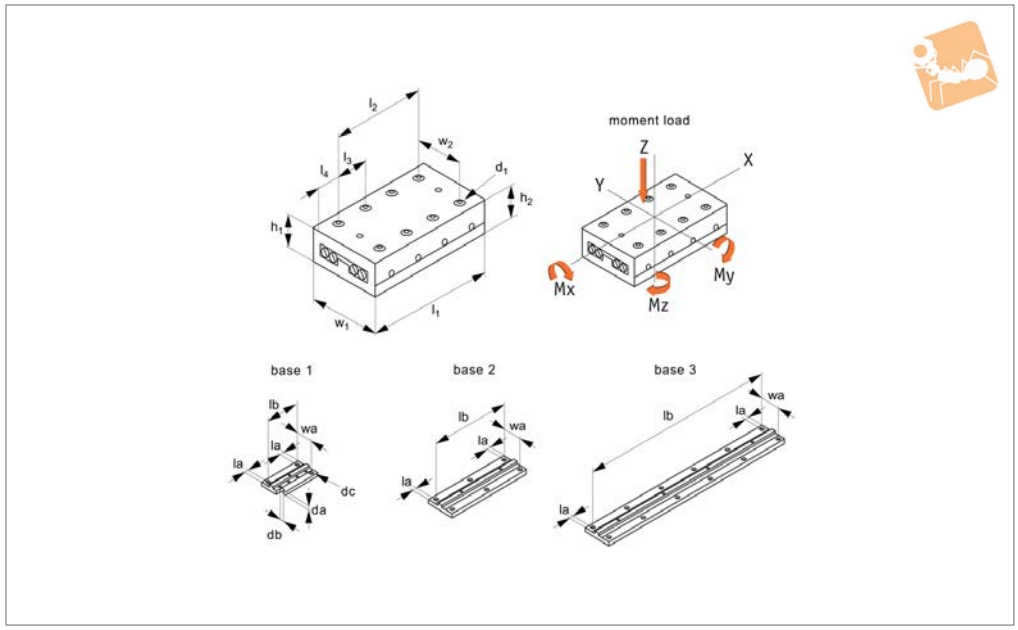


L3191

Material
Cast iron body (ENGJL-250), with hardened needle roller linear rail set.
Can also be supplied with an aluminium body when lighter weight stages are required (approx. 50% of weight of standard slides and have 50% of the load capacity).

Technical Notes
Suitable for horizontal and vertical applications requiring smooth movement, long life and high load capacity.
Needle roller stages are the highest load rating stages. Other versions are also available - cross roller slides (L3470), and dovetail slides (L3480) for use when vibration damping is required. Load ratings are based on even surface loading with the slide in the centre position, and apply to a single slide.
Coefficient of friction 0,003.

Important Notes
See technical pages for straightness and parallelism accuracy and standard carriage and base fixing holes - other fixing holes can be machined on request.
3D CAD models available.

Order No.	w_1	Stroke	Load kN max.	l_1	h_1	l_2	d_1	d_a	d_b	d_c	h_2	Weight kg
L3191.100-060	100	60	9.70	110	45	$1xl_3$	11	6.5	6.6	11	23.5	3.1
L3191.100-095	100	95	14.3	160	45	$2xl_3$	11	6.5	6.6	11	23.5	4.5
L3191.100-130	100	130	18.8	210	45	$3xl_3$	11	6.5	6.6	11	23.5	5.9
L3191.100-165	100	165	23.4	260	45	$4xl_3$	11	6.5	6.6	11	23.5	7.2
L3191.100-200	100	200	28.6	310	45	$5xl_3$	11	6.5	6.6	11	23.5	8.6
L3191.100-235	100	235	33.1	360	45	$6xl_3$	11	6.5	6.6	11	23.5	10.0
L3191.100-265	100	265	37.7	410	45	$7xl_3$	11	6.5	6.6	11	23.5	11.4
L3191.145-130	145	130	18.8	210	60	$1xl_3$	15	8.5	9.0	15	32.0	11.8
L3191.145-180	145	180	29.7	310	60	$2xl_3$	15	8.5	9.0	15	32.0	17.3
L3191.145-350	145	350	32.0	410	60	$3xl_3$	15	8.5	9.0	15	32.0	22.8
L3191.145-450	145	450	38.8	510	60	$4xl_3$	15	8.5	9.0	15	32.0	28.3
L3191.145-550	145	550	46.3	610	60	$5xl_3$	15	8.5	9.0	15	32.0	22.8
L3191.145-650	145	650	53.1	710	60	$6xl_3$	15	8.5	9.0	15	32.0	39.3
L3191.145-750	145	750	60.6	810	60	$7xl_3$	15	8.5	9.0	15	32.0	44.8
L3191.145-850	145	850	67.4	910	60	$8xl_3$	15	8.5	9.0	15	32.0	50.3
L3191.145-950	145	950	74.9	1010	60	$9xl_3$	15	8.5	9.0	15	32.0	55.8

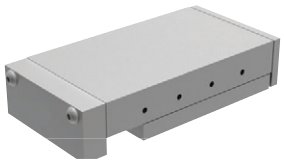
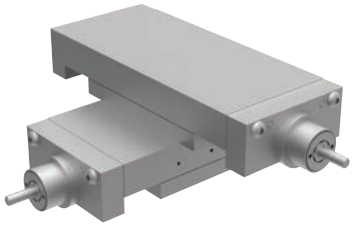
Order No.	l_3	l_4	l_a	l_b	w_2	w_a	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.	Hole pattern
L3191.100-060	50	30	10	1x90	64	60	215	104	104	1
L3191.100-095	50	30	10	1x140	64	60	320	230	230	1
L3191.100-130	50	30	10	1x50 / 1x90 / 1x50	64	60	420	410	410	2
L3191.100-165	50	30	10	1x50 / 1x140 / 1x50	64	60	525	645	645	2
L3191.100-200	50	30	10	1x50 / 1x190 / 1x50	64	60	640	950	950	2

Plain Compact Positioning Stages

needle roller

Order No.	l_3	l_4	l_a	l_b	w_2	w_a	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.	Hole pattern
L3191.100-235	50	30	10	2x50 / 1x140 / 2x50	64	60	745	1285	1285	3
L3191.100-265	50	30	10	2x50 / 1x190 / 2x50	64	60	845	1695	1695	3
L3191.145-130	100	55	55	1x100	98	90	675	410	410	1
L3191.145-180	100	55	55	1x200	98	90	1070	1035	1035	1
L3191.145-350	100	55	55	3x100	98	90	1150	1200	1200	2
L3191.145-450	100	55	55	1x100 /1x200 /1x100	98	90	1400	1795	1795	2
L3191.145-550	100	55	55	5x100	98	90	1665	2540	2540	2
L3191.145-650	100	55	55	2x100 /1x200 /2x100	98	90	1915	3375	3375	3
L3191.145-750	100	55	55	7x100	98	90	2180	4375	4375	2
L3191.145-850	100	55	55	3x100 /1x200 /3x100	98	90	2425	5455	5455	3
L3191.145-950	100	55	55	9x100	98	90	2695	6705	6705	2

Heavy duty linear stages

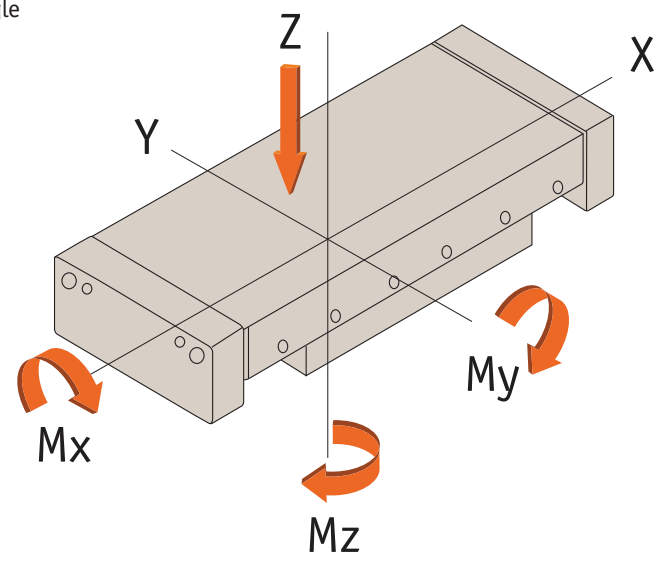
Plain stages	Lead screw & handle	Lead screw & knob
		
XYθ stage	**Motorised stage**	**XY stage**
		

Available with the following sliding elements:

Cross roller:	For medium loads, low friction.
Dovetail:	Less expensive, higher friction, higher loads.
Needle roller:	Highest loads, low friction, more expensive.

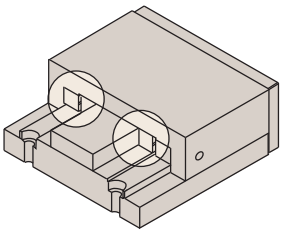
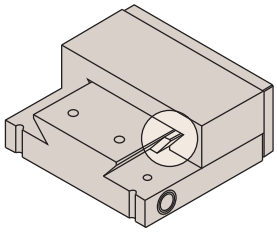
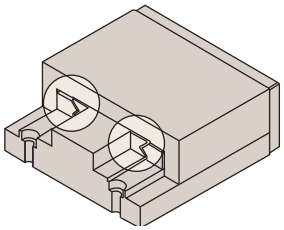
Moment loads

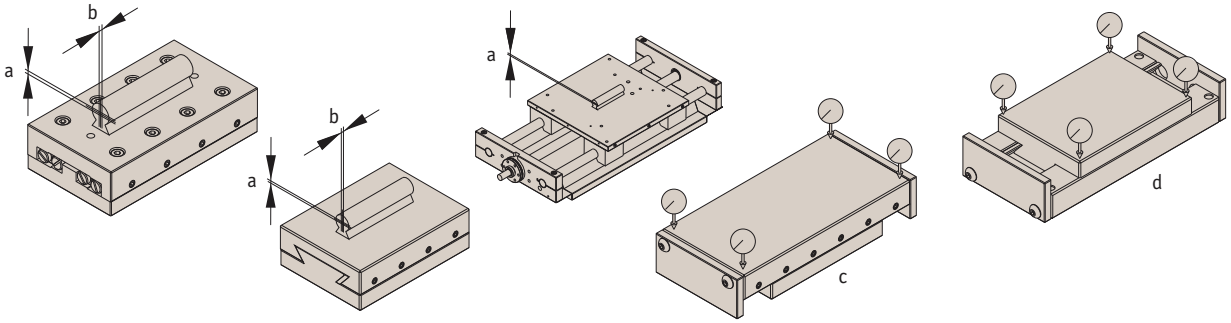
All loads shown in tables are based upon an evenly distributed load with slide in centre position. All loads apply to a single slide.



Precision Linear Stages

Overview

	• Crossed roller	• Dovetail	• Needle roller
			
Width	30-300mm	30-400mm	100-400mm
Stroke	12-950mm	10-600mm	50-800mm
Load capacity	29 kN	33 kN	59 kN
Max speed	20 m/min	15 m/min	20 m/min
Coefficient of fiction	0,003	0,1	0,003

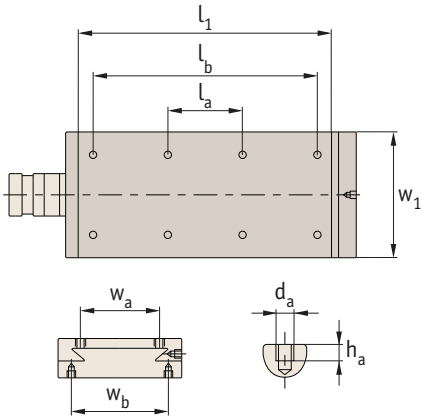


Straightness of travel (µ)		Stroke up to	Slide type	Slide length up to	Parallelism (µ)	
a	b				c	d
2	3	50	Cross roller & Needle roller	100	12	10
3	4	100	Cross roller & Needle roller	200	18	15
5	6	200	Cross roller & Needle roller	300	21	18
6	8	300	Cross roller & Needle roller	400	25	22
8	10	400	Cross roller & Needle roller	600	32	30
10	14	500	Cross roller & Needle roller	800	45	40
12	17	600	Cross roller & Needle roller	1000	60	50
15	20	700	Cross roller & Needle roller	1210	80	60
18	25	800	Cross roller & Needle roller			
3	5	50	Dovetail	100	15	12
5	8	100	Dovetail	200	22	18
8	12	200	Dovetail	300	28	25
10	15	300	Dovetail	400	35	30
14	20	400	Dovetail	600	50	40
18	25	500	Dovetail	800	60	50
20	30	600	Dovetail	1000	80	65
20	30	600	Dovetail	1210	100	80

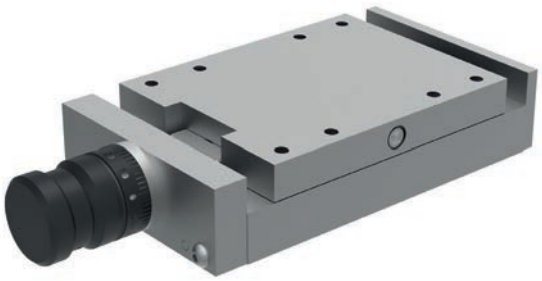
Height tolerance for roller and dovetail slides
± 0,01mm. DIN 7168 medium is the dimensional variations of the sliders. Closer tolerances upon request.

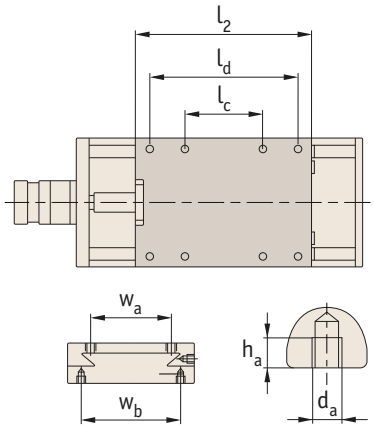
Rectangularity of XY-tables
± 0,005mm per 100mm slide length

Carriage - Standard holes



Base - Standard holes



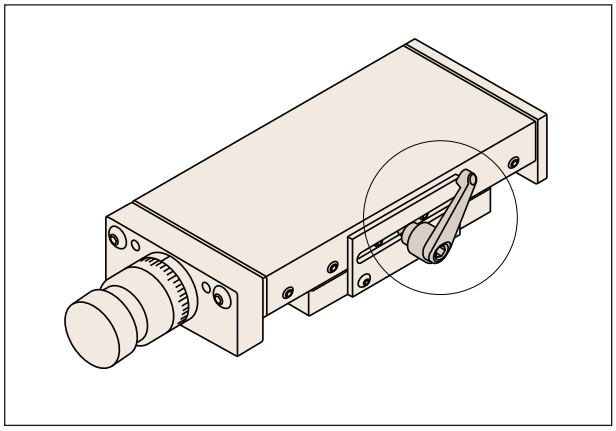


Carriage							Base					
w_1	l_1	l_a	l_b	h_a	d_a	w_a	l_2	l_c	l_d	w_b	d_a	h_a
50	76	36	-	4	4xM4	24	50	20	-	37	4xM4	4
50	102	62	-	4	4xM4	24	76	36	-	37	4xM4	4
50	152	112	-	4	4xM4	24	101	61	-	37	4xM4	4
75	102	62	-	5	4xM5	34	76	36	-	56	4xM5	5
75	127	87	-	5	4xM5	34	101	61	-	56	4xM5	5
75	152	112	-	5	4xM5	34	101	61	-	56	4xM5	5
100	152	112	-	6	4xM6	52	126	86	-	74	4xM6	8
100	203	163	-	6	4xM6	52	152	112	-	74	4xM6	8
100	254	214	-	6	4xM6	52	203	163	-	74	4xM6	8
100	305	90	265	6	8xM6	52	228	188	-	74	8xM6	8
150	203	163	-	6	4xM8	95	152	112	-	120	4xM8	12
150	305	90	265	6	8xM8	95	203	163	-	120	8xM8	12
150	406	240	366	6	8xM8	95	304	90	264	120	8xM8	12
150	406	240	366	6	8xM8	95	253	213	-	120	8xM8	12
200	457	240	417	8	8xM10	120	304	90	264	155	8xM10	8
200	610	190	570	8	8xM10	120	406	190	366	155	8xM10	8
300	410	190	370	15	8xM10	200	308	90	268	255	8xM10	15
300	610	190	570	15	8xM12	200	408	190	368	255	8xM12	15
300	710	290	670	15	8xM12	200	408	190	368	255	8xM12	15
300	910	290	870	15	8xM12	200	508	290	468	255	8xM12	15
300	1010	490	970	15	8xM12	200	508	290	468	255	8xM12	15
300	1210	490	1170	15	8xM12	200	608	190	568	255	8xM12	15

Positioning Stages

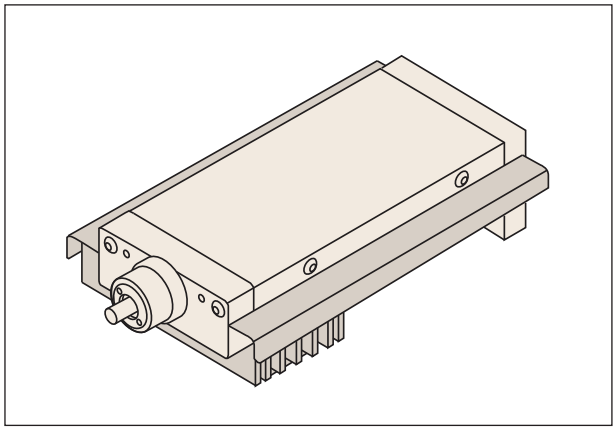
Medium - heavy duty accessories

Locking device



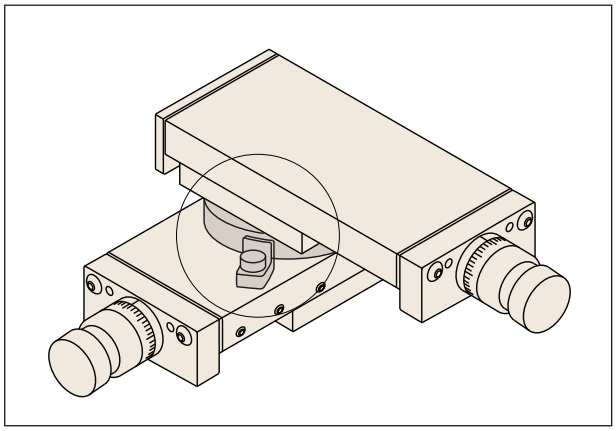
Either mounted on a side plate, a swivel rod or direct to slideway - dependent on stage type.

Bellows



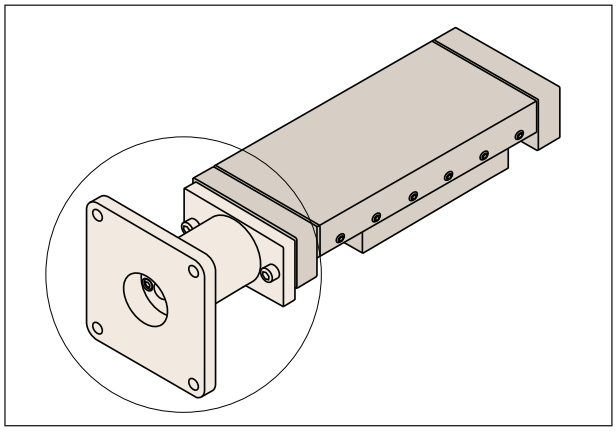
Recommended for general industrial applications. The installation of bellows affects the stroke, height and width of the slide. The bellows are made of PVC and can be used at temperatures up to 80° consult us for dimensions.

Swivelling plates



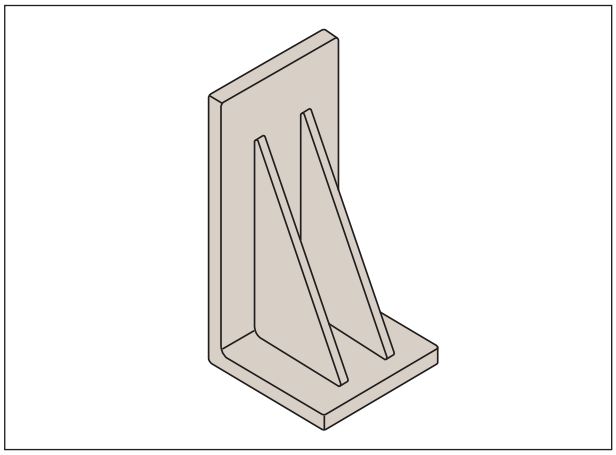
These can be rotated 360° in graduations of 10°. Graduations of 10° up to 90° clockwise and counter-clockwise.

Motor adaptors



For slides with a width greater than 75mm, a flanged motor adaptor with coupling can be provided. Please advise motor size.

Mounting brackets



From cast iron or on request aluminium.