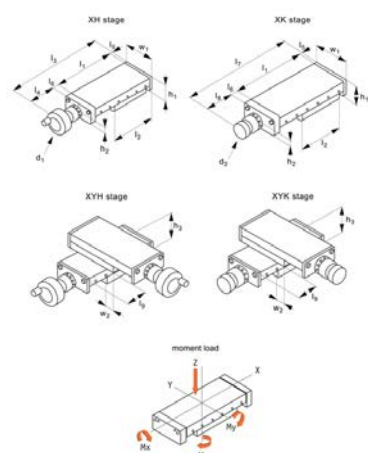




Manual Lead Screw Stages

compact, cross roller

Manual Positioning Stages



L3173

MANUAL POSITIONING STAGES

Material

Cast iron body (ENGJL-250), with hardened cross roller linear rail set. Hardened and ground lead screw, pitch accuracy $\pm 0.02\text{mm}/300\text{mm}$.

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. Other versions are also available - dovetail slides (L3480) for vibration damping, and needle roller slides (L3490) for even higher load ratings. 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.

Tips

Replace -* with

-XH for X axis stage with handle

-XK for X axis stage with knob

-XYH for X,Y axes stage with handle

-XYK for X,Y axes stage with knob

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	d_1	d_2	l_1	h_1	h_2	h_3	l_2	l_3	Weight kg
L3173.060-025-*	60	25	50	23.9	80	28	14	56	55	160	0.8
L3173.060-050-*	60	50	50	23.9	130	28	14	56	80	210	1.2
L3173.060-075-*	60	75	50	23.9	205	28	14	56	130	285	1.9
L3173.060-100-*	60	100	50	23.9	255	28	14	56	155	335	2.3
L3173.100-025-*	100	25	50	35.0	135	45	21	90	110	226	3.3
L3173.100-050-*	100	50	56	35.0	210	45	21	90	160	301	5.9
L3173.100-075-*	100	75	56	35.0	285	45	21	90	210	376	7.5
L3173.100-100-*	100	100	56	35.0	360	45	21	90	260	451	9.5
L3173.100-150-*	100	150	56	35.0	460	45	21	90	310	551	11.4
L3173.100-175-*	100	175	56	35.0	535	45	21	90	360	626	13.8
L3173.100-200-*	100	200	56	35.0	610	45	21	90	410	701	14.5
L3173.145-050-*	145	50	106	48.0	260	60	26	120	210	391	13.0
L3173.145-100-*	145	100	106	48.0	310	60	26	120	210	441	14.2
L3173.145-150-*	145	150	106	48.0	460	60	26	120	310	591	19.3
L3173.145-200-*	145	200	106	48.0	510	60	26	120	310	641	23.0
L3173.145-250-*	145	250	106	48.0	660	60	26	120	410	791	26.8
L3173.145-300-*	145	300	106	48.0	710	60	26	120	410	841	30.0

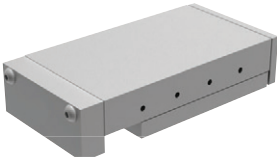
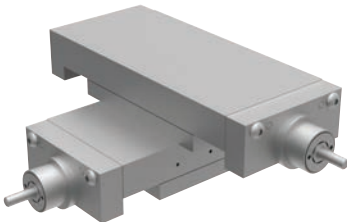
Order No.	l_4	l_5	l_6	l_7	l_8	l_9	w_2	Lead screw	Load kN max.	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.
L3173.060-025-*	142	6	14	142	42	10.0	0.0	M 6x1	0.4	12	5.5	6.1
L3173.060-050-*	192	6	14	192	42	35.0	10.0	M 6x1	0.6	18	11	12
L3173.060-075-*	267	6	14	267	42	72.5	35.0	M 6x1	1.0	30	36	40



Order No.	l_4	l_5	l_6	l_7	l_8	l_9	w_2	Lead screw	Load kN max.	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.
L3173.060-100.*	317	6	14	317	42	97.5	47.5	M 8x1	1.2	36	49	54
L3173.100-025.*	205	6	15	205	49	17.5	5.0	M 8x1	1.6	76	47	56
L3173.100-050.*	280	6	15	280	49	55.0	30.0	M 8x1	2.3	110	104	124
L3173.100-075.*	355	6	15	355	49	92.5	55.0	M12x1	3.1	152	193	230
L3173.100-100.*	430	6	15	430	49	130.0	80.0	M12x1	3.8	186	295	350
L3173.100-150.*	530	6	15	530	49	180.0	105.0	M12x1	4.3	210	380	455
L3173.100-175.*	605	6	15	605	49	217.5	130.0	M12x1	5.1	245	520	620
L3173.100-200.*	680	6	15	680	49	255.0	155.0	M20x1	5.8	275	685	815
L3173.145-050.*	354	8	16	354	70	57.5	32.5	M20x1	6.4	365	325	385
L3173.145-100.*	404	8	16	404	70	82.5	32.5	M20x1	5.3	300	225	265
L3173.145-150.*	554	8	16	554	70	157.5	82.5	M20x1	8.5	485	575	680
L3173.145-200.*	604	8	16	604	70	182.5	82.5	TR26x4	7.5	425	440	520
L3173.145-250.*	754	8	16	754	70	257.5	132.5	TR26x4	10.1	575	855	1010
L3173.145-300.*	804	8	16	804	70	282.5	132.5	TR26x4	9.1	515	685	815



Heavy duty linear stages

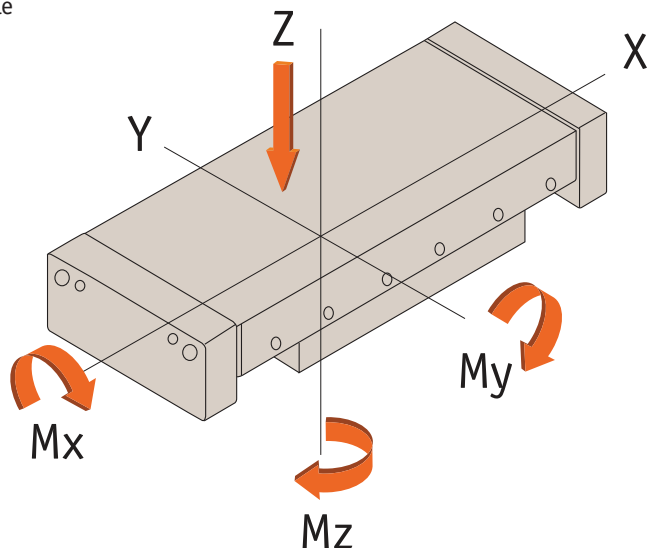
Plain stages 	Lead screw & handle 	Lead screw & knob 
XYθ stage 	Motorised stage 	XY stage 

Available with the following sliding elements:

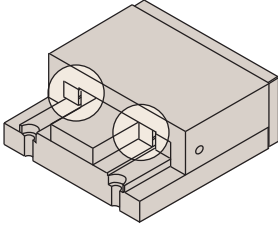
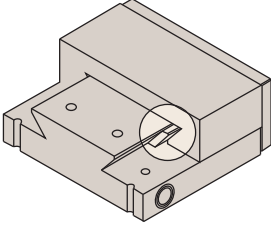
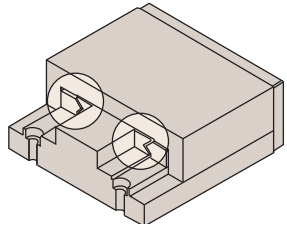
Cross roller:	For medium loads, low friction.
Dovetail:	Less expensive, higher friction, higher loads.
Needle roller:	Highest loads, low friction, more expensive.

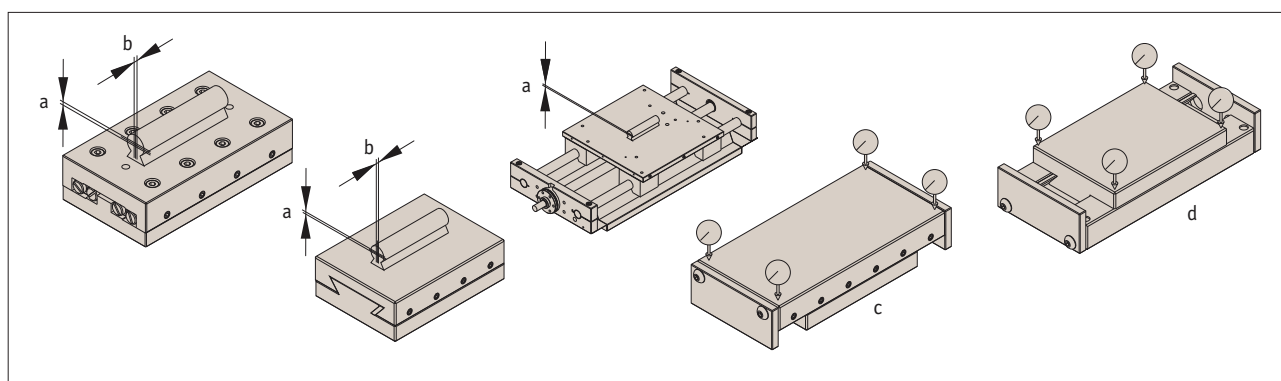
Moment loads

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





	• 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 friction	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

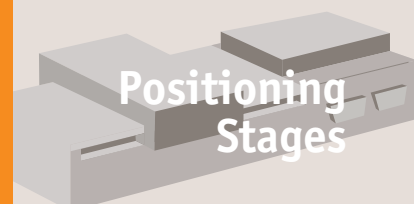
Height tolerance for roller and dovetail slides
 $\pm 0,01\text{mm}$. DIN 7168 medium is the dimensional variations of the sliders. Closer tolerances upon request.

Rectangularity of XY-tables
 $\pm 0,005\text{mm}$ per 100mm slide length



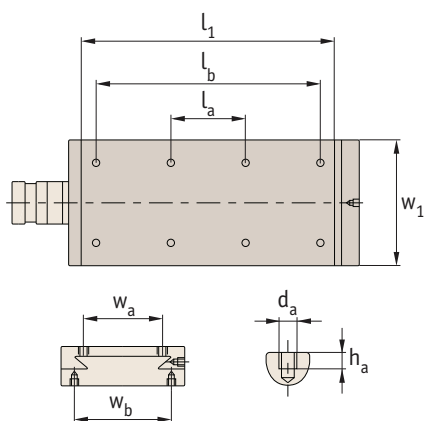
Heavy Duty Linear Stages

Standard mounting holes

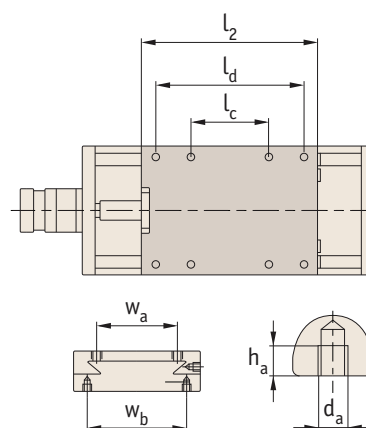
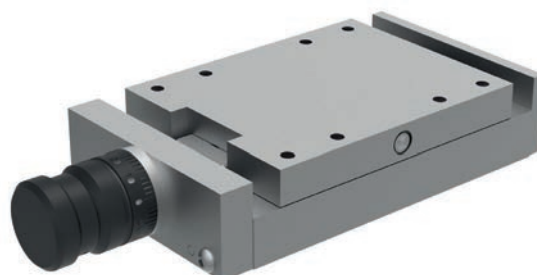


Positioning Stages

Carriage - Standard holes



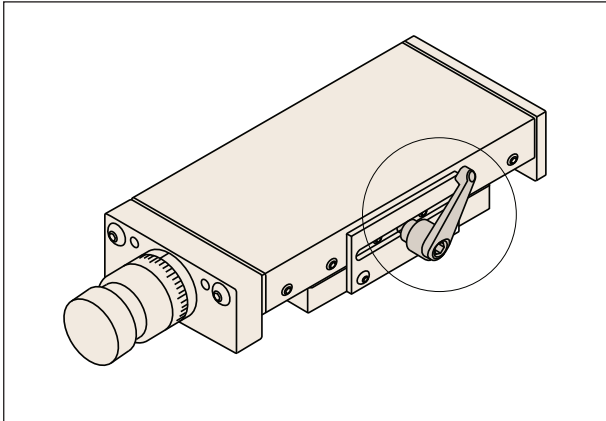
Base - Standard holes



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

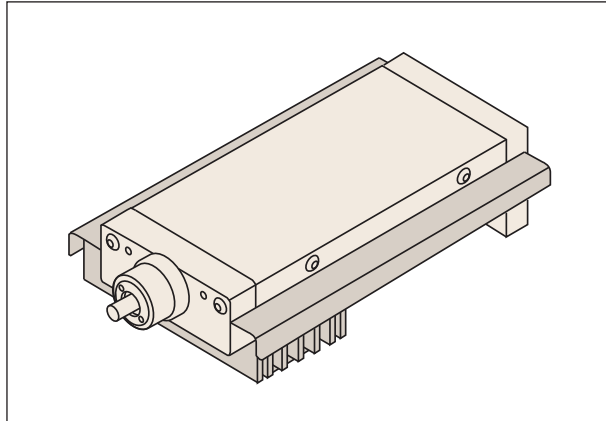


Locking device



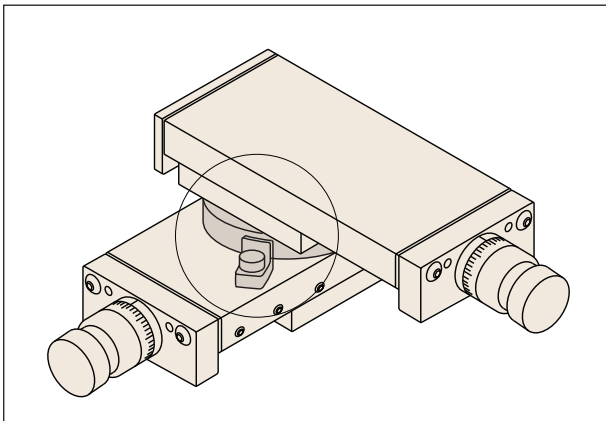
Either mounted on a side plate, a swivel rod or direct to slideway - dependent on stage type.

Bellows



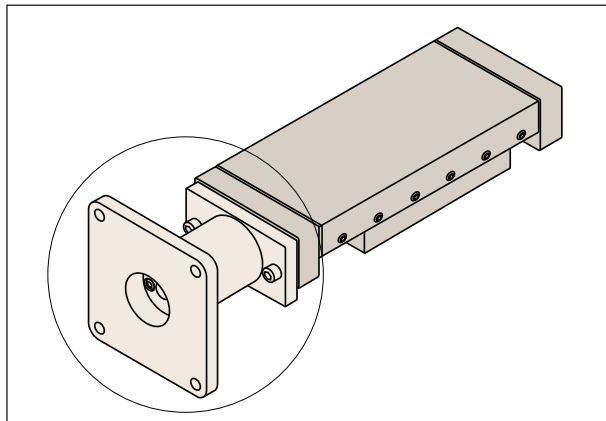
Recommended for general industrial applications. The installation of bellows affects the stroke, height and width of the slide. The bellows are made of PVC and can be used at temperatures up to 80° consult us for dimensions.

Swivelling plates



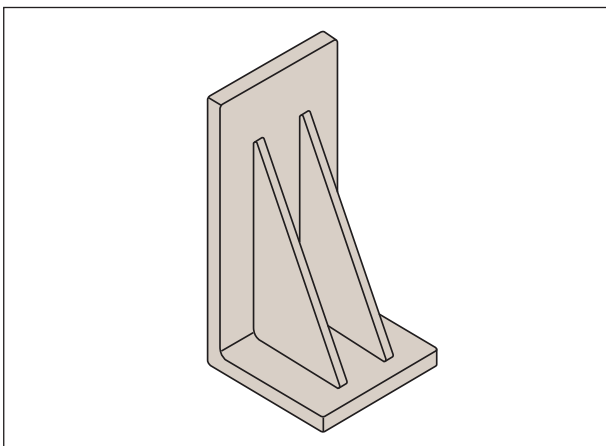
These can be rotated 360° in graduations of 10°. Graduations of 10° up to 90° clockwise and counter-clockwise.

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.