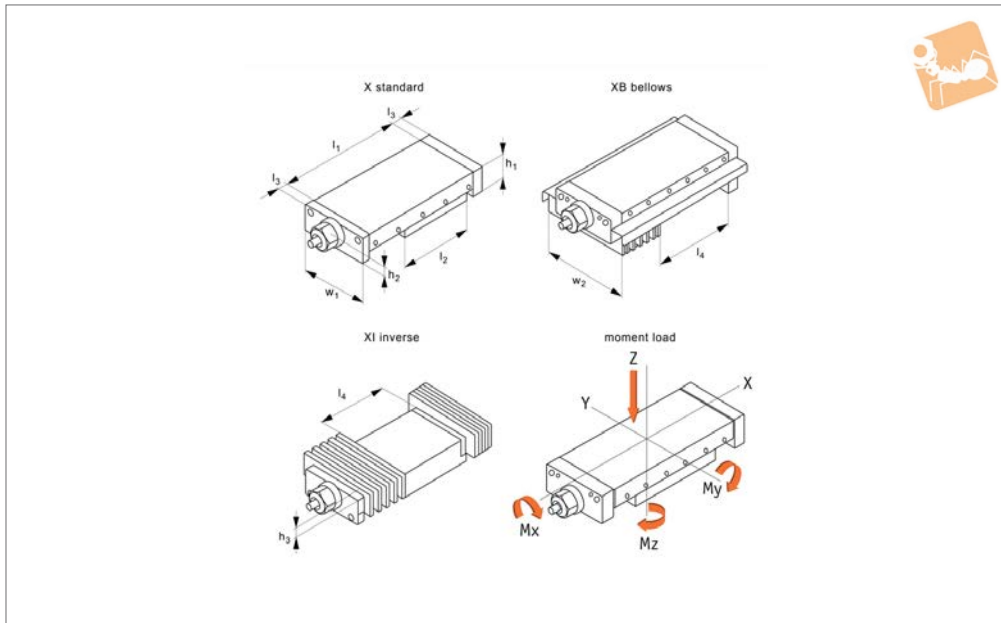




Motor Lead Screw X Stages

cross roller

Manual Positioning Stages



L3174

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. Speeds up to 3000 rpm, max. 20 m/min. Positioning accuracy max. 0.001mm.

Tips

Replace -* with -X for X axis stage

-XB for X axis stage with bellows

-XI for inverse X axis stage with bellows.

Optionally with ball screw not lead screw. When limit switches are installed the stroke is reduced by approx. 20mm.

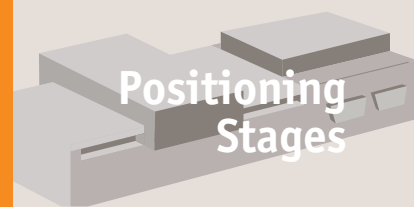
Important Notes

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.

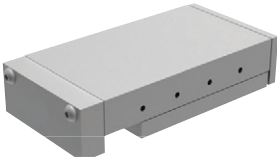




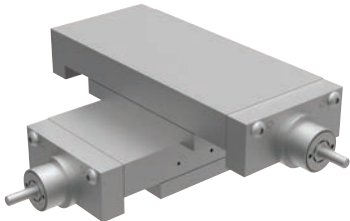
Order No.	w ₁	Stroke	l ₁	h ₁	h ₂	h ₃	l ₂	l ₃	Weight kg
L3174.075-025-*	75	25	102	32	11.5	14	76	15	1.8
L3174.075-026-*	75	25	127	32	11.5	14	101	15	2.0
L3174.075-050-*	75	50	152	32	11.5	14	101	15	2.5
L3174.100-025-*	100	25	152	37	13.5	14	126	15	4.0
L3174.100-050-*	100	50	203	37	13.5	14	152	15	4.7
L3174.100-051-*	100	50	254	37	13.5	14	203	15	6.1
L3174.100-075-*	100	75	305	37	13.5	14	228	15	7.0
L3174.150-050-*	150	50	203	50	19.0	24	152	16	10.0
L3174.150-100-*	150	100	305	50	19.0	24	203	16	13.2
L3174.150-101-*	150	100	406	50	19.0	24	406	16	18.0
L3174.150-150-*	150	150	406	50	19.0	24	253	16	16.5
L3174.200-150-*	200	150	457	58	21.5	24	304	16	30.0
L3174.200-200-*	200	200	610	58	21.5	24	406	16	40.0
L3174.300-100-*	300	100	410	75	26.0	32	308	20	59.0
L3174.300-200-*	300	200	610	75	26.0	32	408	20	80.0
L3174.300-300-*	300	300	710	75	26.0	32	408	20	92.0
L3174.300-400-*	300	400	910	75	26.0	32	508	20	110.0
L3174.300-500-*	300	500	1010	75	26.0	32	508	20	125.0
L3174.300-600-*	300	600	1210	75	26.0	32	608	20	145.0



Order No.	l_4	l_5	w_2	Lead screw	Load kN max.	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.
L3174.075-025-*	50	13.5	0.5	8x1	0.6	32	18	19
L3174.075-026-*	65	26.0	13.0	8x1	0.8	45	37	40
L3174.075-050-*	55	38.5	13.0	8x1	0.7	40	27	29
L3174.100-025-*	100	26.0	13.0	8x1	1.2	67	41	48
L3174.100-050-*	115	51.5	26.0	8x1	1.2	76	52	62
L3174.100-051-*	160	77.0	51.5	8x1	1.7	106	104	124
L3174.100-075-*	180	102.5	64.0	8x1	1.8	112	118	141
L3174.150-050-*	120	26.5	1.0	15x2	2.6	220	104	123
L3174.150-100-*	150	77.5	26.5	15x2	3.2	270	157	186
L3174.150-101-*	250	128.0	128.0	15x2	5.4	460	460	545
L3174.150-150-*	190	128.0	51.5	15x2	3.8	320	220	260
L3174.200-150-*	250	128.5	52.0	15x2	5.0	705	445	455
L3174.200-200-*	340	205.0	103.0	15x2	6.6	935	795	815
L3174.300-100-*	280	55.0	4.0	23x4	8.4	3190	800	825
L3174.300-200-*	380	155.0	54.0	23x4	10.4	3950	1205	1245
L3174.300-300-*	380	205.0	54.0	23x4	8.4	3190	800	825
L3174.300-400-*	480	305.0	104.0	23x4	10.4	3950	1205	1245
L3174.300-500-*	480	355.0	104.0	23x4	8.4	3190	800	825
L3174.300-600-*	580	455.0	154.0	23x4	10.4	3950	1205	1245



Heavy duty linear stages

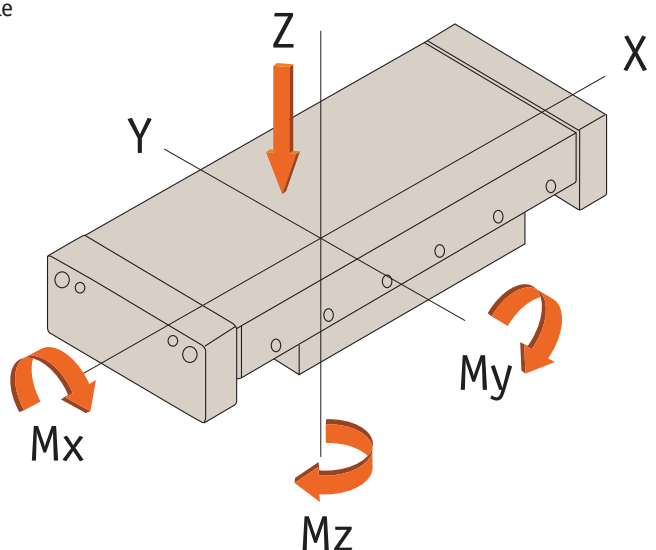
<p>Plain stages</p> 	<p>Lead screw & handle</p> 	<p>Lead screw & knob</p> 
<p>XYθ stage</p> 	<p>Motorised stage</p> 	<p>XY stage</p> 

Available with the following sliding elements:


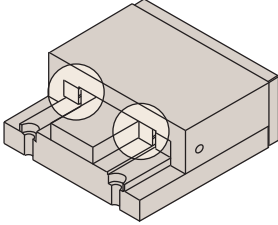
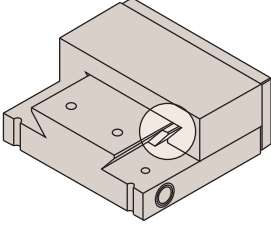
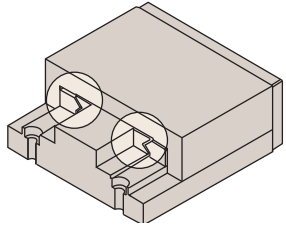
- Cross roller: For medium loads, low friction.
- Dovetail: Less expensive, higher friction, higher loads.
- Needle roller: Highest loads, low friction, more expensive.

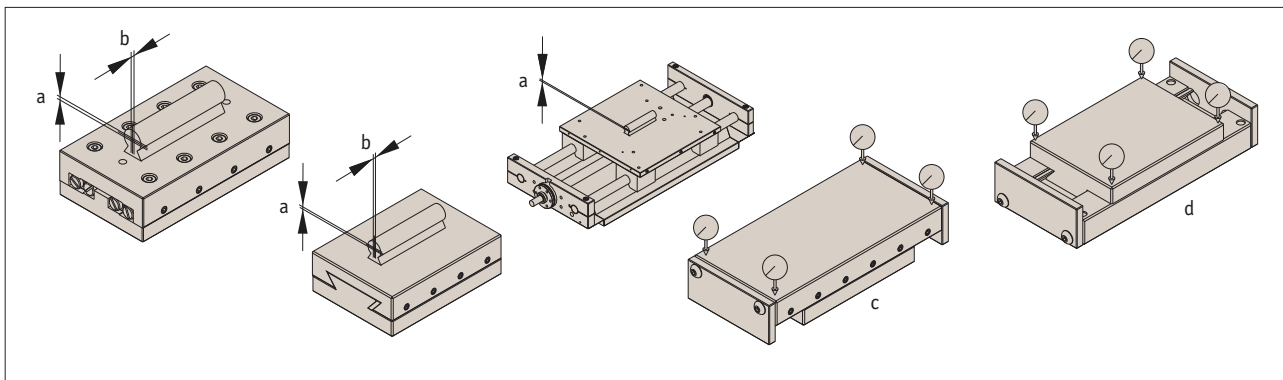
Moment loads

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

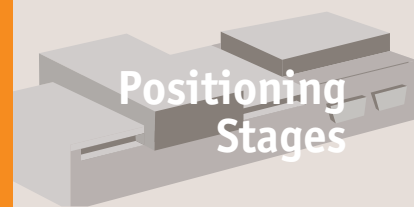
Height tolerance for roller and dovetail slides
 $\pm 0,01$ mm. DIN 7168 medium is the dimensional variations of the sliders. Closer tolerances upon request.

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



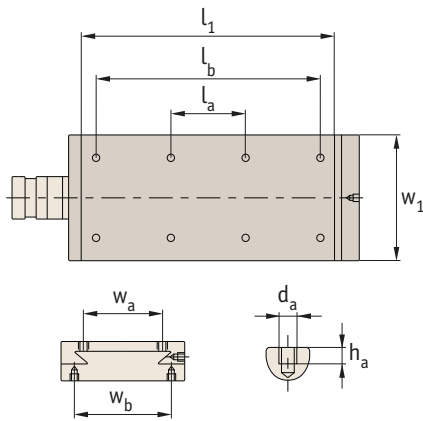
Heavy Duty Linear Stages

Standard mounting holes

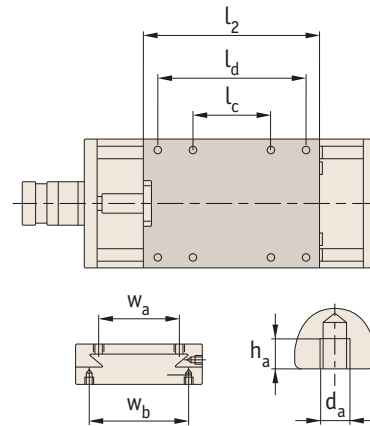
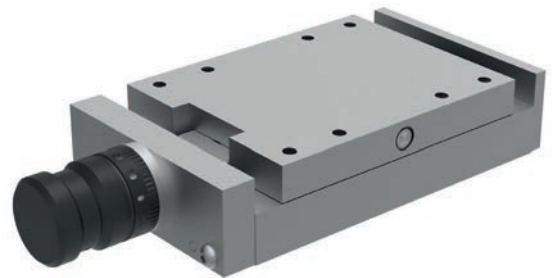


Positioning Stages

Carriage - Standard holes



Base - Standard holes



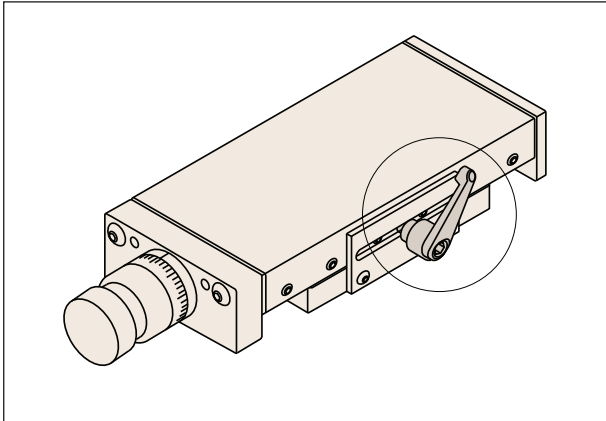
Carriage							Base					
w ₁	l ₁	l _a	l _b	h _a	d _a	w _a	l ₂	l _c	l _d	w _b	d _a	h _a
50	76	36	-	4	4xM4	24	50	20	-	37	4xM4	4
50	102	62	-	4	4xM4	24	76	36	-	37	4xM4	4
50	152	112	-	4	4xM4	24	101	61	-	37	4xM4	4
75	102	62	-	5	4xM5	34	76	36	-	56	4xM5	5
75	127	87	-	5	4xM5	34	101	61	-	56	4xM5	5
75	152	112	-	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

ov-standard-mounting-holes-rnh - Updated - 01-03-2023

MANUAL POSITIONING STAGES

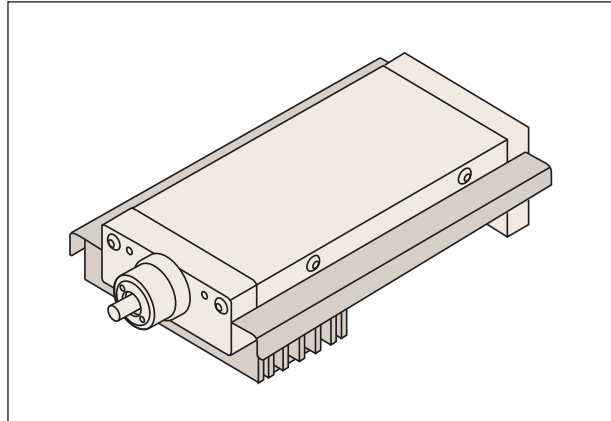


Locking device



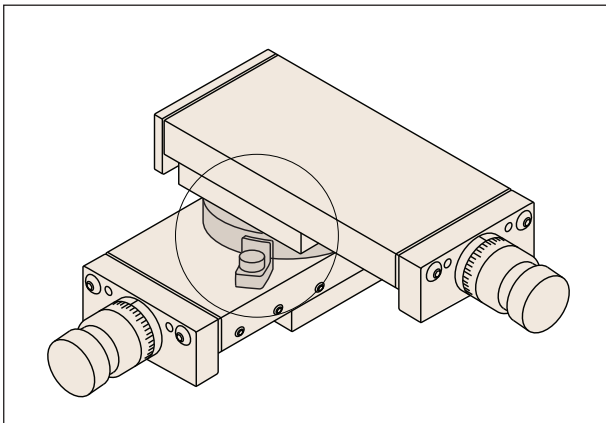
Either mounted on a side plate, a swivel rod or direct to slideway - dependent on stage type.

Bellows



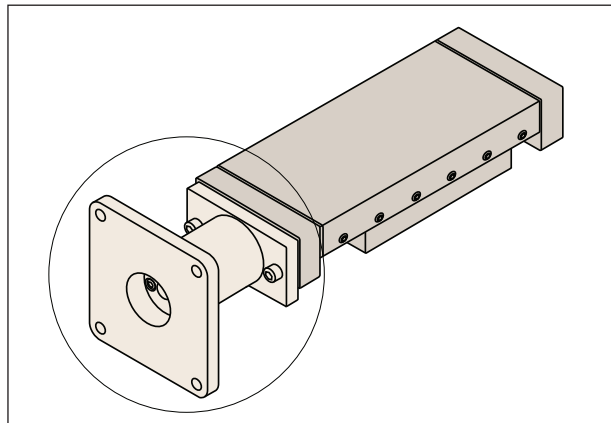
Recommended for general industrial applications. The installation of bellows affects the stroke, height and width of the slide. The bellows are made of PVC and can be used at temperatures up to 80° consult us for dimensions.

Swivelling plates



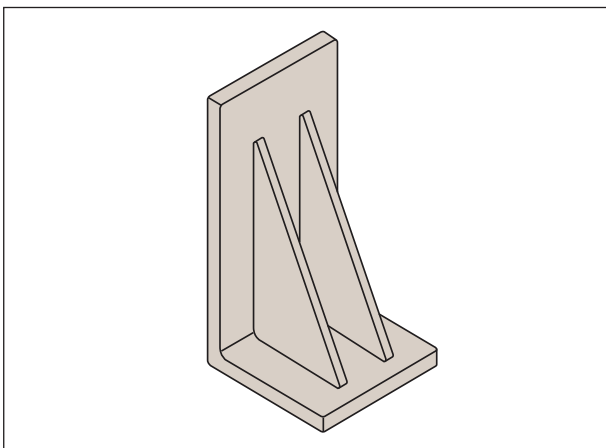
These can be rotated 360° in graduations of 10°. Graduations of 10° up to 90° clockwise and counter-clockwise.

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.