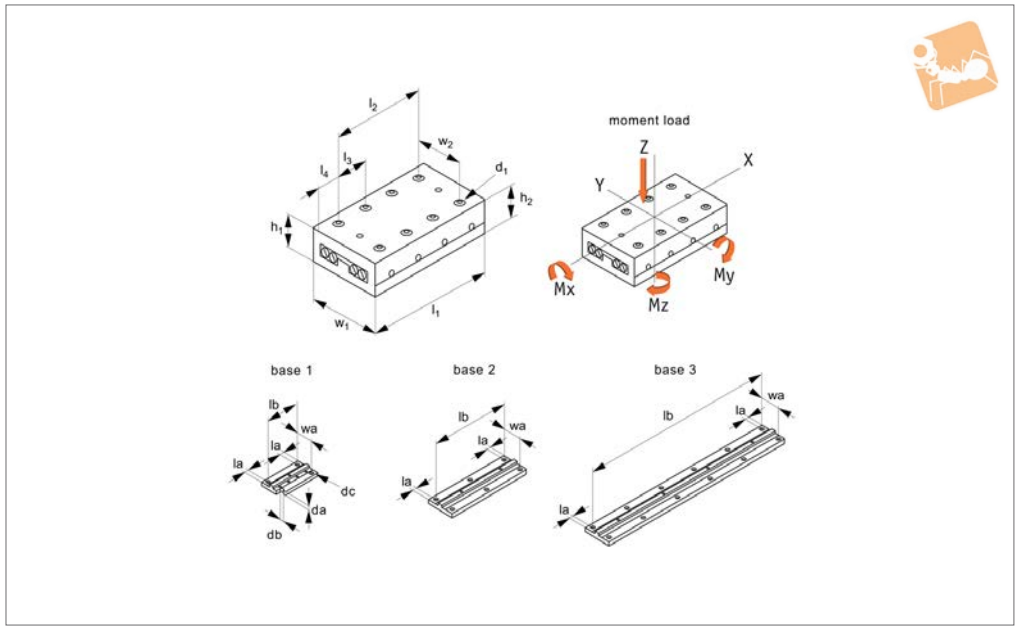


L3171

Material
Cast iron body (ENGJL-250), with hardened cross 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
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.
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	d_1	d_a	d_b	d_c	l_1	h_1	h_2	Hole pattern	l_2	Weight kg
L3171.030-012	30	12	4.3	2.3	2.4	4.3	25	17	9.0	1	$1xl_3$	0.1
L3171.030-018	30	18	4.3	2.3	2.4	4.3	35	17	9.0	1	$2xl_3$	0.1
L3171.030-025	30	25	4.3	2.3	2.4	4.3	45	17	9.0	1	$3xl_3$	0.1
L3171.030-032	30	32	4.3	2.3	2.4	4.3	55	17	9.0	2	$4xl_3$	0.2
L3171.030-040	30	40	4.3	2.3	2.4	4.3	65	17	9.0	2	$5xl_3$	0.2
L3171.030-045	30	45	4.3	2.3	2.4	4.3	75	17	9.0	2	$6xl_3$	0.2
L3171.030-050	30	50	4.3	2.3	2.4	4.3	85	17	9.0	2	$7xl_3$	0.3
L3171.040-018	40	18	6.0	3.5	3.4	6.0	35	21	11.0	1	$1xl_3$	0.2
L3171.040-030	40	30	6.0	3.5	3.4	6.0	50	21	11.0	1	$2xl_3$	0.3
L3171.040-040	40	40	6.0	3.5	3.4	6.0	65	21	11.0	1	$3xl_3$	0.3
L3171.040-050	40	50	6.0	3.5	3.4	6.0	80	21	11.0	2	$4xl_3$	0.4
L3171.040-060	40	60	6.0	3.5	3.4	6.0	95	21	11.0	2	$5xl_3$	0.5
L3171.040-070	40	70	6.0	3.5	3.4	6.0	110	21	11.0	2	$6xl_3$	0.6
L3171.040-080	40	80	6.0	3.5	3.4	6.0	125	21	11.0	2	$7xl_3$	0.7
L3171.060-030	60	30	8.0	4.5	4.5	8.0	55	28	14.5	1	$1xl_3$	0.6
L3171.060-045	60	45	8.0	4.5	4.5	8.0	80	28	14.5	1	$2xl_3$	0.8
L3171.060-060	60	60	8.0	4.5	4.5	8.0	105	28	14.5	1	$3xl_3$	1.0
L3171.060-075	60	75	8.0	4.5	4.5	8.0	130	28	14.5	1	$4xl_3$	1.3
L3171.060-090	60	90	8.0	4.5	4.5	8.0	155	28	14.5	2	$5xl_3$	1.5
L3171.060-105	60	105	8.0	4.5	4.5	8.0	180	28	14.5	2	$6xl_3$	1.7
L3171.060-130	60	130	8.0	4.5	4.5	8.0	205	28	14.5	3	$7xl_3$	2.0
L3171.100-060	100	60	11.0	6.5	6.6	11.0	110	45	23.5	1	$1xl_3$	3.1
L3171.100-095	100	95	11.0	6.5	6.6	11.0	160	45	23.5	1	$2xl_3$	4.5
L3171.100-130	100	130	11.0	6.5	6.6	11.0	210	45	23.5	2	$3xl_3$	5.9
L3171.100-165	100	165	11.0	6.5	6.6	11.0	260	45	23.5	2	$4xl_3$	7.2
L3171.100-200	100	200	11.0	6.5	6.6	11.0	310	45	23.5	2	$5xl_3$	8.6
L3171.100-235	100	235	11.0	6.5	6.6	11.0	360	45	23.5	3	$6xl_3$	10.0
L3171.100-265	100	265	11.0	6.5	6.6	11.0	410	45	23.5	3	$7xl_3$	11.4
L3171.145-130	145	130	15.0	8.5	9.0	15.0	210	60	32.0	1	$1xl_3$	11.8

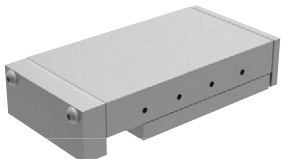
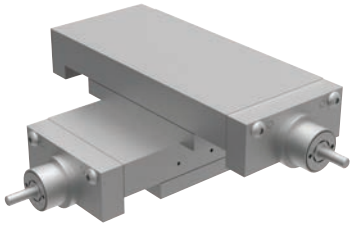
Plain Compact Positioning Stages

cross roller

Order No.	w_1	Stroke	d_1	d_a	d_b	d_c	l_1	h_1	h_2	Hole pattern	l_2	Weight kg
L3171.145-180	145	180	15.0	8.5	9.0	15.0	310	60	32.0	1	$2xl_3$	17.3
L3171.145-350	145	350	15.0	8.5	9.0	15.0	410	60	32.0	2	$3xl_3$	22.8
L3171.145-450	145	450	15.0	8.5	9.0	15.0	510	60	32.0	2	$4xl_3$	28.3
L3171.145-550	145	550	15.0	8.5	9.0	15.0	610	60	32.0	2	$5xl_3$	33.8
L3171.145-650	145	650	15.0	8.5	9.0	15.0	710	60	32.0	3	$6xl_3$	39.3
L3171.145-750	145	750	15.0	8.5	9.0	15.0	810	60	32.0	2	$7xl_3$	44.8
L3171.145-850	145	850	15.0	8.5	9.0	15.0	910	60	32.0	3	$8xl_3$	50.3
L3171.145-950	145	950	15.0	8.5	9.0	15.0	1010	60	32.0	2	$9xl_3$	55.8

Order No.	l_3	l_4	l_a	l_b	w_2	w_a	Load kN max.	Moment M_x Nm max.	Moment M_y Nm max.	Moment M_z Nm max.
L3171.030-012	10	7.5	3.5	1x18	18.4	22	0.16	1.4	0.4	0.4
L3171.030-018	10	7.5	3.5	1x18	18.4	22	0.28	2.4	1.2	1.3
L3171.030-025	10	7.5	3.5	1x38	18.5	22	0.36	3.0	2.1	2.4
L3171.030-032	10	7.5	3.5	1x10 / 1x28 / 1x10	18.6	22	0.44	3.7	3.3	3.7
L3171.030-040	10	7.5	3.5	1x10 / 1x38 / 1x10	18.7	22	0.52	4.4	4.7	5.2
L3171.030-045	10	7.5	3.5	1x10 / 1x48 / 1x10	18.8	22	0.60	5.1	6.6	7.3
L3171.030-050	10	7.5	3.5	1x10 / 1x58 / 1x10	18.9	22	0.72	6.1	9.3	10
L3171.040-018	15	10	5.0	1x25	25.0	30	0.29	3.8	1.3	1.5
L3171.040-030	15	10	5.0	1x40	25.0	30	0.41	5.4	2.9	3.2
L3171.040-040	15	10	5.0	1x55	25.0	30	0.59	7.7	5.9	6.6
L3171.040-050	15	10	5.0	1x15 / 1x40 / 1x15	25.0	30	0.71	9.2	9.1	10
L3171.040-060	15	10	5.0	1x15 / 1x55 / 1x15	25.0	30	0.89	11	14	15
L3171.040-070	15	10	5.0	1x15 / 1x70 / 1x15	25.0	30	1.01	13	18	21
L3171.040-080	15	10	5.0	1x15 / 1x85 / 1x15	25.0	30	1.19	15	25	28
L3171.060-030	25	15	10.0	1x35	39.0	40	0.70	12	5.1	5.6
L3171.060-045	25	15	10.0	1x60	39.0	40	1.0	18	11	13
L3171.060-060	25	15	10.0	1x85	39.0	40	1.40	25	23	25
L3171.060-075	25	15	10.0	1x110	39.0	40	1.70	30	36	40
L3171.060-090	25	15	10.0	1x25 / 1x85 / 1x25	39.0	40	2.10	38	54	60
L3171.060-105	25	15	10.0	1x25 / 1x110 / 1x25	39.0	40	2.40	43	73	81
L3171.060-130	25	15	10.0	2x25 / 1x85 / 2x22	39.0	40	27.0	49	91	101
L3171.100-060	50	30	10.0	1x90	64.0	60	2.05	59	28	33
L3171.100-095	50	30	10.0	1x140	64.0	60	3.20	93	70	83
L3171.100-130	50	30	10.0	1x50 / 1x85 / 1x50	64.0	60	4.37	127	131	156
L3171.100-165	50	30	10.0	1x50 / 1x140 / 1x50	64.0	60	5.20	152	200	235
L3171.100-200	50	30	10.0	1x50 / 1x190 / 1x50	64.0	60	6.40	186	295	350
L3171.100-235	50	30	10.0	2x50 / 1x140 / 1x50	64.0	60	7.28	210	395	470
L3171.100-265	50	30	10.0	2x50 / 1x190 / 1x50	64.0	60	8.45	245	530	635
L3171.145-130	100	55	55.0	1x100	98.0	90	6.90	270	180	210
L3171.145-180	100	55	55.0	1x200	98.0	90	11.5	455	500	590
L3171.145-350	100	55	55.0	3x100	98.0	90	12.2	485	575	680
L3171.145-450	100	55	55.0	1x100/1x200/1x100	98.0	90	14.5	575	855	1010
L3171.145-550	100	55	55.0	5x100	98.0	90	17.6	695	1240	1465
L3171.145-650	100	55	55.0	2x10/1x200/2x100	98.0	90	19.9	790	1635	1930
L3171.145-750	100	55	55.0	7x100	98.0	90	23.0	910	2155	2545
L3171.145-850	100	55	55.0	3x100/1x200/3x100	98.0	90	25.3	1000	2665	3150
L3171.145-950	100	55	55.0	9x100	98.0	90	28.3	1125	3320	3920

Heavy duty linear stages

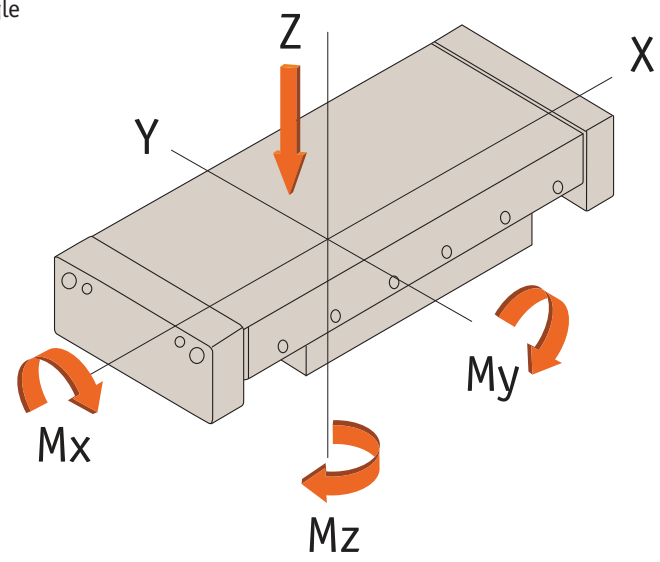
Plain stages	Lead screw & handle	Lead screw & knob
		
XYθ stage	**Motorised stage**	**XY stage**
		

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.

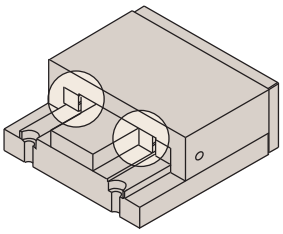
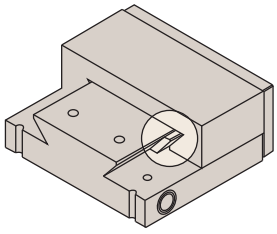
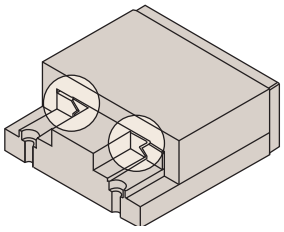
Moment loads

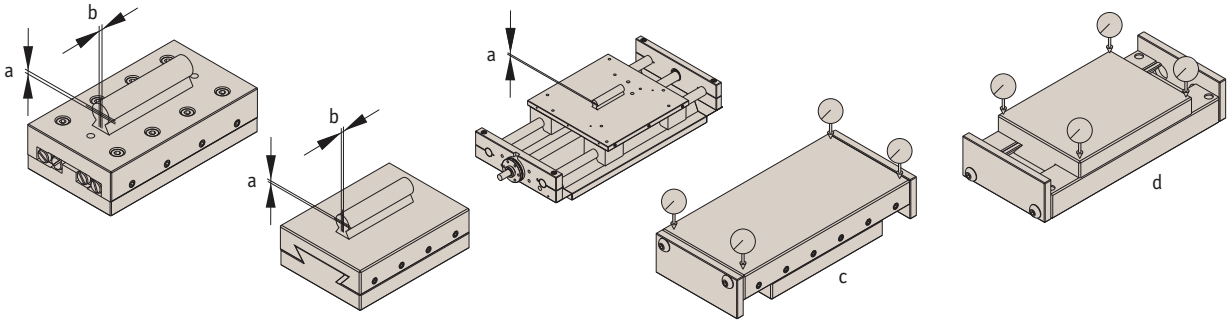
All loads shown in tables are based upon an evenly distributed load with slide in centre position. All loads apply to a single slide.



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

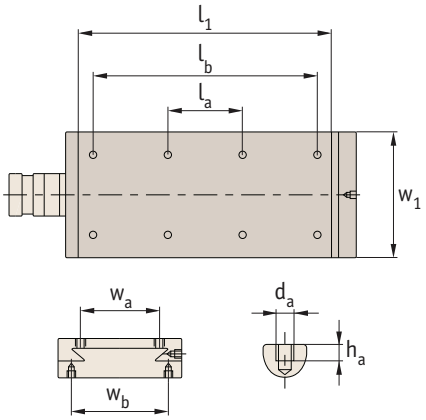


Straightness of travel (µ)		Stroke up to	Slide type	Slide length up to	Parallelism (µ)	
a	b				c	d
2	3	50	Cross roller & Needle roller	100	12	10
3	4	100	Cross roller & Needle roller	200	18	15
5	6	200	Cross roller & Needle roller	300	21	18
6	8	300	Cross roller & Needle roller	400	25	22
8	10	400	Cross 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

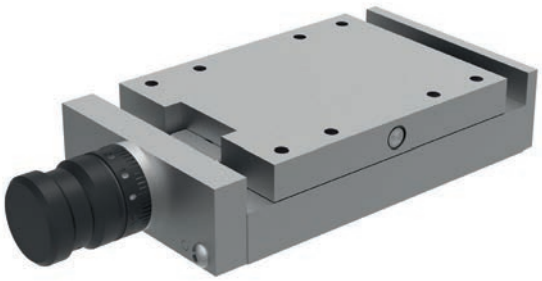
Height tolerance for roller and dovetail slides
± 0,01mm. DIN 7168 medium is the dimensional variations of the sliders. Closer tolerances upon request.

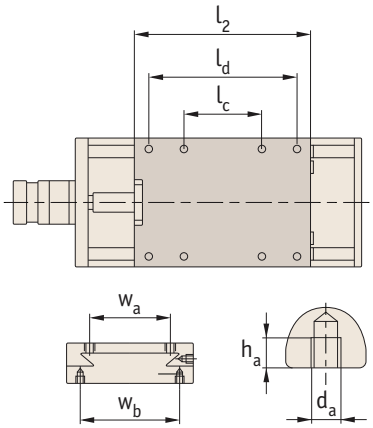
Rectangularity of XY-tables
± 0,005mm per 100mm slide length

Carriage - Standard holes



Base - Standard holes



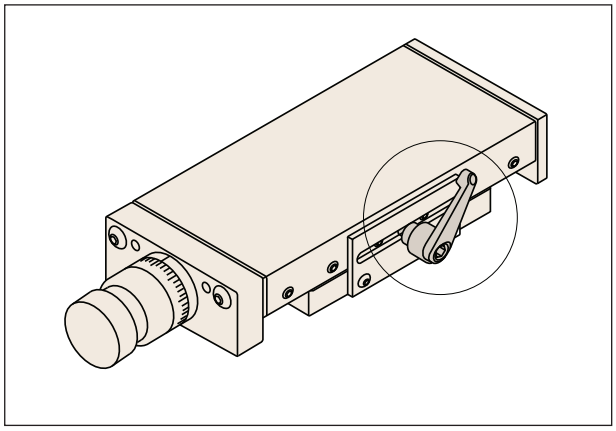


Carriage							Base					
w_1	l_1	l_a	l_b	h_a	d_a	w_a	l_2	l_c	l_d	w_b	d_a	h_a
50	76	36	-	4	4xM4	24	50	20	-	37	4xM4	4
50	102	62	-	4	4xM4	24	76	36	-	37	4xM4	4
50	152	112	-	4	4xM4	24	101	61	-	37	4xM4	4
75	102	62	-	5	4xM5	34	76	36	-	56	4xM5	5
75	127	87	-	5	4xM5	34	101	61	-	56	4xM5	5
75	152	112	-	5	4xM5	34	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

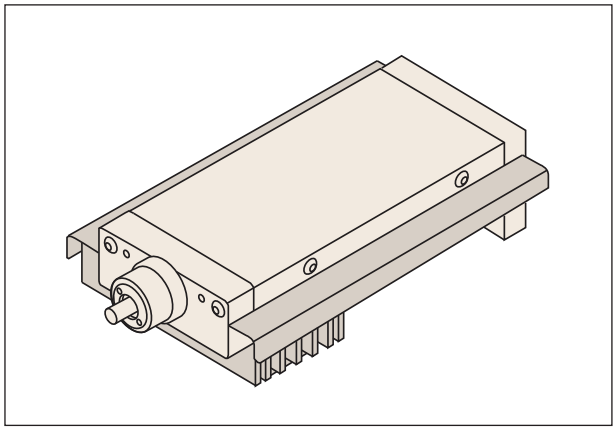
Medium - heavy duty accessories

Locking device



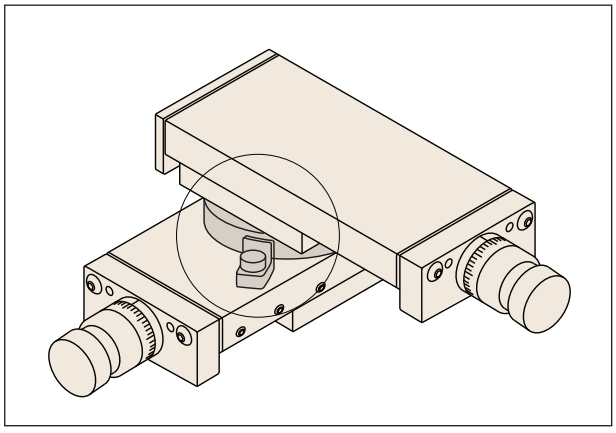
Either mounted on a side plate, a swivel rod or direct to slideway - dependent on stage type.

Bellows



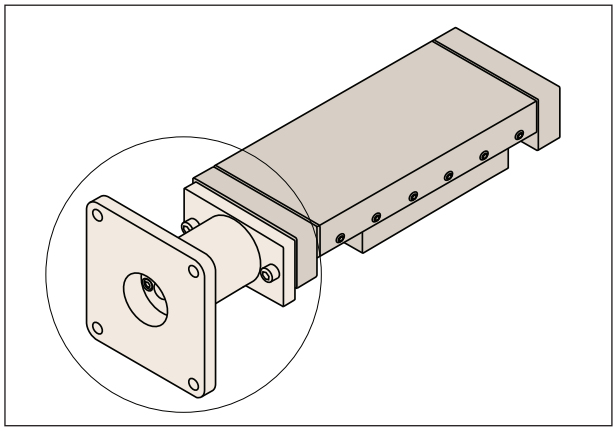
Recommended for general industrial applications. The installation of bellows affects the stroke, height and width of the slide. The bellows are made of PVC and can be used at temperatures up to 80° consult us for dimensions.

Swivelling plates



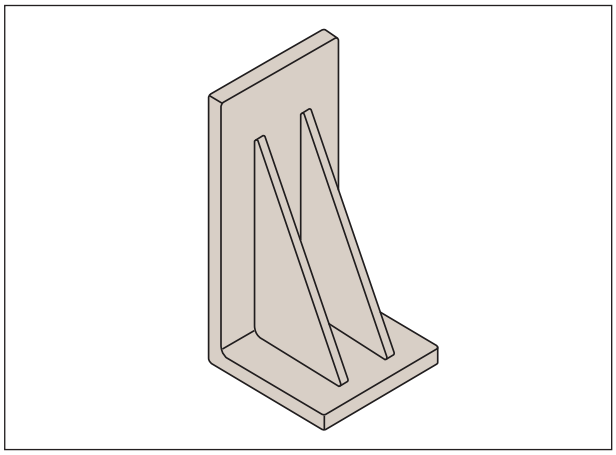
These can be rotated 360° in graduations of 10°. Graduations of 10° up to 90° clockwise and counter-clockwise.

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.