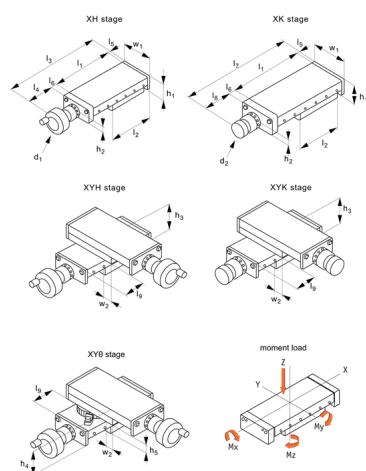




Manual Lead Screw Positioning Stages

needle roller

Manual Positioning Stages



L3192

MANUAL POSITIONING STAGES

Material

Cast iron body (ENGJL-250), with hardened needle 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.

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.

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

-XYTH for X,Y,. stage with handle

-XYTK for X,Y,. stage with knob

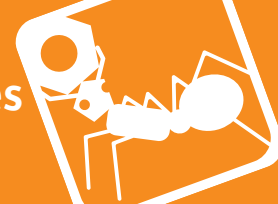
Centre mounting of compound slides is standard. Please advise dimensions w_2 and l_9 when off-centre mounting is required.

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_2	h_2	h_3	h_4	h_5	Weight kg
L3192.150-050-*	150	50	21.1	203	50	152	106	48	24.3	100	120	20	10.0
L3192.150-100-*	150	100	28.6	305	50	203	106	48	24.3	100	120	20	13.2
L3192.150-101-*	150	100	42.9	406	50	304	106	48	24.3	100	120	20	18.0
L3192.150-150-*	150	150	21.1	305	50	152	106	48	24.3	100	120	20	12.5
L3192.150-151-*	150	150	35.4	406	50	253	106	48	24.3	100	120	20	16.5
L3192.150-200-*	150	200	28.6	406	50	203	106	48	24.3	100	120	20	15.0
L3192.150-250-*	150	250	21.1	406	50	152	106	48	24.3	100	120	20	13.5
L3192.200-100-*	200	100	22.0	305	58	203	106	48	28.3	116	136	20	21.0
L3192.200-150-*	200	150	35.4	406	58	253	106	48	28.3	116	136	20	26.0
L3192.200-151-*	200	150	42.9	457	58	304	106	48	28.3	116	136	20	30.0
L3192.200-200-*	200	200	42.9	510	58	304	106	48	28.3	116	136	20	31.5
L3192.200-201-*	200	200	57.2	610	58	406	106	48	28.3	116	136	20	40.0
L3192.200-250-*	200	250	35.4	510	58	253	106	48	28.3	116	136	20	29.0
L3192.200-300-*	200	300	42.9	610	58	304	106	48	28.3	116	136	20	34.5
L3192.300-100-*	300	100	21.0	410	75	308	125	68	35.0	150	190	30	65
L3192.300-200-*	300	200	21.0	510	75	308	125	68	35.0	150	190	30	70
L3192.300-300-*	300	300	21.0	610	75	308	125	68	35.0	150	190	30	78
L3192.300-400-*	300	400	21.0	710	75	308	125	68	35.0	150	190	30	85
L3192.300-201-*	300	200	30.2	610	75	408	125	68	35.0	150	190	30	88
L3192.300-301-*	300	300	30.2	710	75	408	125	68	35.0	150	190	30	94
L3192.300-401-*	300	400	30.2	810	75	408	125	68	35.0	150	190	30	100

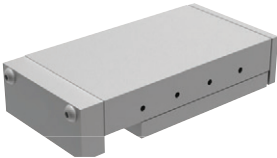
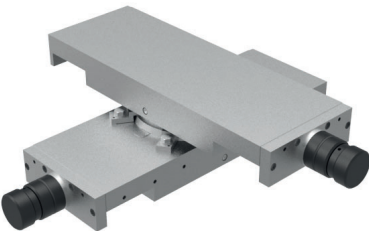
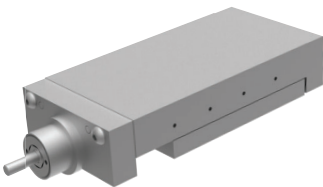
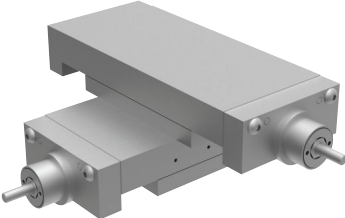


Order No.	w ₁	Stroke	Load kN max.	l ₁	h ₁	l ₂	d ₁	d ₂	h ₂	h ₃	h ₄	h ₅	Weight kg
L3192.300-500.*	300	500	30.2	910	75	408	125	68	35.0	150	190	30	108
L3192.300-600.*	300	600	30.2	1010	75	408	125	68	35.0	150	190	30	115
L3192.300-700.*	300	700	30.2	1110	75	408	125	68	35.0	150	190	30	122
L3192.300-800.*	300	800	39.2	1210	75	408	125	68	35.0	150	190	30	128
L3192.300-302.*	300	300	39.2	810	75	508	125	68	35.0	150	190	30	111
L3192.300-402.*	300	400	39.2	910	75	508	125	68	35.0	150	190	30	118
L3192.300-502.*	300	500	39.2	1010	75	508	125	68	35.0	150	190	30	125
L3192.300-602.*	300	600	39.2	1110	75	508	125	68	35.0	150	190	30	132
L3192.300-702.*	300	700	39.2	1210	75	508	125	68	35.0	150	190	30	137
L3192.400-203.*	400	200	44.3	610	102	408	200	84	43.5	204	244	40	169
L3192.400-303.*	400	300	44.3	710	102	408	200	84	43.5	204	244	40	182
L3192.400-403.*	400	400	44.3	810	102	408	200	84	43.5	204	244	40	195
L3192.400-503.*	400	500	44.3	910	102	408	200	84	43.5	204	244	40	208
L3192.400-603.*	400	600	44.3	1010	102	408	200	84	43.5	204	244	40	222
L3192.400-703.*	400	700	44.3	1110	102	408	200	84	43.5	204	244	40	235
L3192.400-803.*	400	800	44.3	1210	102	408	200	84	43.5	204	244	40	249
L3192.400-304.*	400	300	58.2	810	102	508	200	84	43.5	204	244	40	210
L3192.400-404.*	400	400	58.2	910	102	508	200	84	43.5	204	244	40	225
L3192.400-504.*	400	500	58.2	1010	102	508	200	84	43.5	204	244	40	238
L3192.400-604.*	400	600	58.2	1110	102	508	200	84	43.5	204	244	40	251
L3192.400-704.*	400	700	58.2	1210	102	508	200	84	43.5	204	244	40	265

Order No.	l ₃	l ₄	l ₅	l ₆	l ₇	l ₈	l ₉	w ₂	Moment M _x Nm max.	Moment M _y Nm max.	Moment M _z Nm max.	Lead screw
L3192.150-050.*	334	107	8	16	297	70.0	26.5	1.0	940	435	435	M20x1
L3192.150-100.*	436	107	8	16	399	70.0	77.5	26.5	1270	800	800	M20x1
L3192.150-101.*	537	107	8	16	500	70.0	128.0	77.0	1910	1830	1830	M20x1
L3192.150-150.*	436	107	8	16	399	70.0	77.5	1.0	940	435	435	M20x1
L3192.150-151.*	537	107	8	16	500	70.0	128.0	51.5	1570	1250	1250	M20x1
L3192.150-200.*	537	107	8	16	500	70.0	128.0	26.5	1270	800	800	M20x1
L3192.150-250.*	537	107	8	16	600	70.0	128.0	1.0	940	435	435	M20x1
L3192.200-100.*	436	107	8	16	399	70.0	52.5	1.5	1150	720	720	M20x1
L3192.200-150.*	537	107	8	16	500	70.0	103.0	26.5	2215	1250	1250	M20x1
L3192.200-151.*	588	107	8	16	551	70.0	128.5	52.0	2680	1830	1830	M20x1
L3192.200-200.*	641	107	8	16	604	70.0	155.0	52.0	2680	1830	1830	M20x1
L3192.200-201.*	741	107	8	16	704	70.0	205.0	103.0	3575	3275	3275	M20x1
L3192.200-250.*	841	107	8	16	604	70.0	155.0	26.5	2215	1250	1250	M20x1
L3192.200-300.*	741	107	8	16	704	70.0	205.0	52.0	2680	1830	1830	M20x1
L3192.300-100.*	607	166.5	10	20	538	97.5	55.0	4.0	5520	2100	2100	TR26x4
L3192.300-200.*	707	166.5	10	20	638	97.5	105.0	4.0	5520	2100	2100	TR26x4
L3192.300-300.*	807	166.5	10	20	738	97.5	155.0	4.0	5520	2100	2100	TR26x4
L3192.300-400.*	907	166.5	10	20	838	97.5	205.0	4.0	5520	2100	2100	TR26x4
L3192.300-201.*	807	166.5	10	20	738	97.5	155.0	54.0	7440	4060	4060	TR26x4
L3192.300-301.*	907	166.5	10	20	838	97.5	205.0	54.0	7440	4060	4060	TR26x4
L3192.300-401.*	1007	166.5	10	20	938	97.5	255.0	54.0	7440	4060	4060	TR26x4
L3192.300-500.*	1107	166.5	10	20	1038	97.5	305.0	54.0	7440	4060	4060	TR26x4
L3192.300-600.*	1207	166.5	10	20	1138	97.5	355.0	54.0	7440	4060	4060	TR26x4
L3192.300-700.*	1307	166.5	10	20	1238	97.5	405.0	54.0	7440	4060	4060	TR26x4
L3192.300-800.*	1407	166.5	10	20	1338	97.5	455.0	54.0	7440	4060	4060	TR26x4
L3192.300-302.*	1007	166.5	10	20	938	97.5	255.0	104.0	9290	6600	6600	TR26x4
L3192.300-402.*	1107	166.5	10	20	1038	97.5	305.0	104.0	9290	6600	6600	TR26x4
L3192.300-502.*	1207	166.5	10	20	1138	97.5	355.0	104.0	9290	6600	6600	TR26x4
L3192.300-602.*	1307	166.5	10	20	1238	97.5	405.0	104.0	9290	6600	6600	TR26x4
L3192.300-702.*	1407	166.5	10	20	1338	97.5	455.0	104.0	9290	6600	6600	TR26x4
L3192.400-203.*	868	208.0	20	30	783	123.0	105.0	4.0	13000	5920	5920	TR32x4
L3192.400-303.*	968	208.0	20	30	883	123.0	155.0	4.0	13000	5920	5920	TR32x4
L3192.400-403.*	1068	208.0	20	30	983	123.0	205.0	4.0	13000	5920	5920	TR32x4
L3192.400-503.*	1168	208.0	20	30	1083	123.0	255.0	4.0	13000	5920	5920	TR32x4
L3192.400-603.*	1268	208.0	20	30	1183	123.0	305.0	4.0	13000	5920	5920	TR32x4
L3192.400-703.*	1368	208.0	20	30	1283	123.0	355.0	4.0	13000	5920	5920	TR32x4
L3192.400-803.*	1468	208.0	20	30	1383	123.0	405.0	4.0	13000	5920	5920	TR32x4
L3192.400-304.*	1068	208.0	20	30	983	123.0	205.0	54.0	16430	9750	9750	TR32x4
L3192.400-404.*	1168	208.0	20	30	1083	123.0	255.0	54.0	16430	9750	9750	TR32x4
L3192.400-504.*	1268	208.0	20	30	1183	123.0	305.0	54.0	16430	9750	9750	TR32x4
L3192.400-604.*	1368	208.0	20	30	1283	123.0	355.0	54.0	16430	9750	9750	TR32x4
L3192.400-704.*	1468	208.0	20	30	1383	123.0	405.0	54.0	16430	9750	9750	TR32x4



Heavy duty linear stages

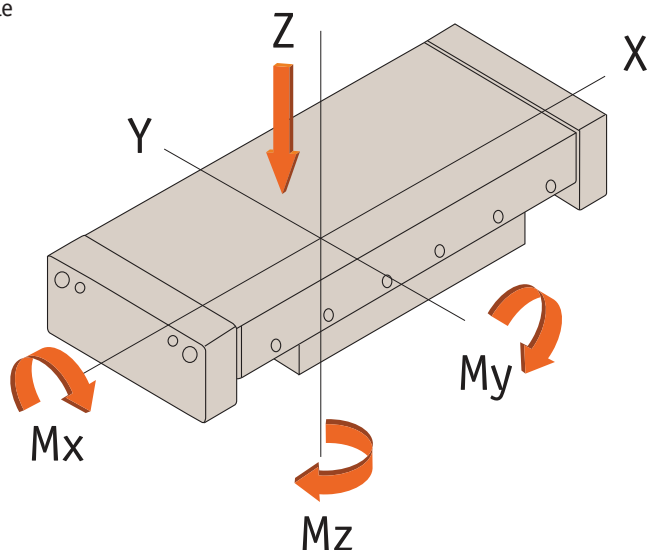
Plain stages 	Lead screw & handle 	Lead screw & knob 
XYθ stage 	Motorised stage 	XY stage 

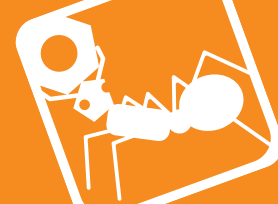
Available with the following sliding elements:

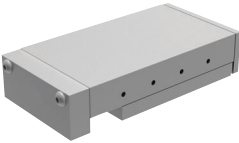
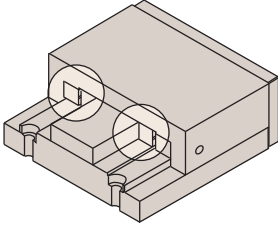
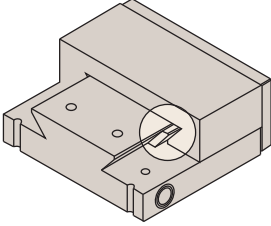
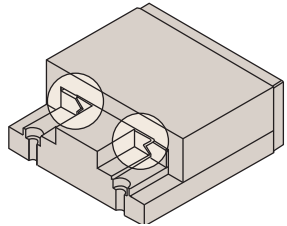
Cross roller:	For medium loads, low friction.
Dovetail:	Less expensive, higher friction, higher loads.
Needle roller:	Highest loads, low friction, more expensive.

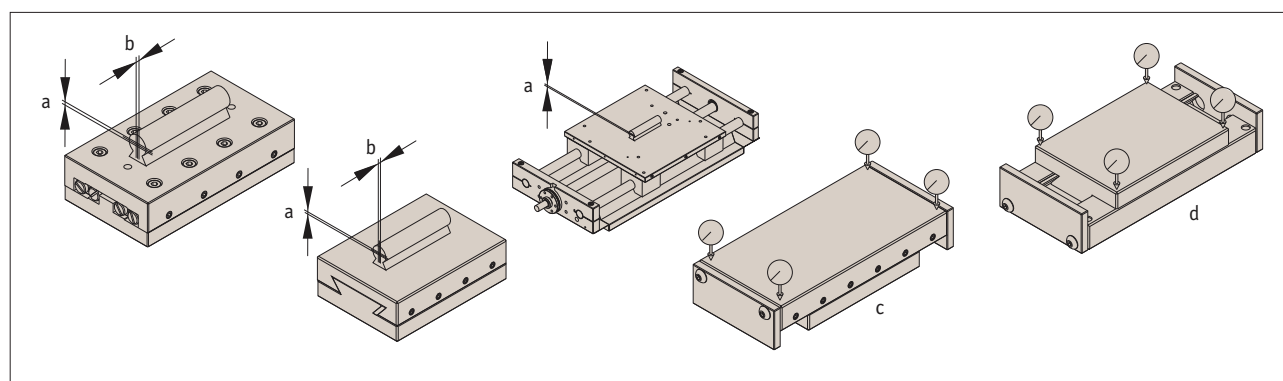
Moment loads

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

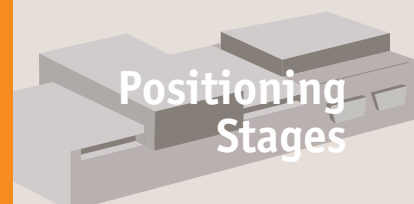
Height tolerance for roller and dovetail slides
 $\pm 0,01\text{mm}$. DIN 7168 medium is the dimensional variations of the sliders. Closer tolerances upon request.

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



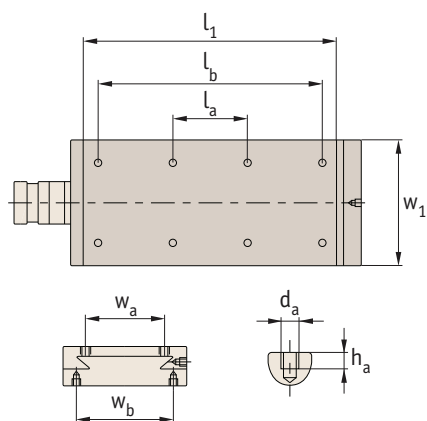
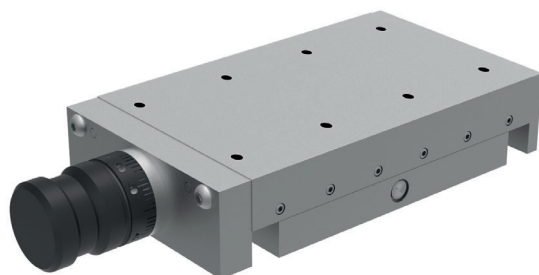
Heavy Duty Linear Stages

Standard mounting holes

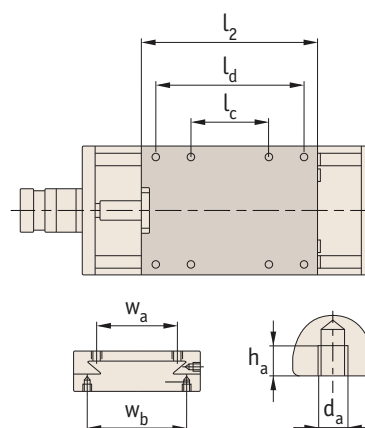
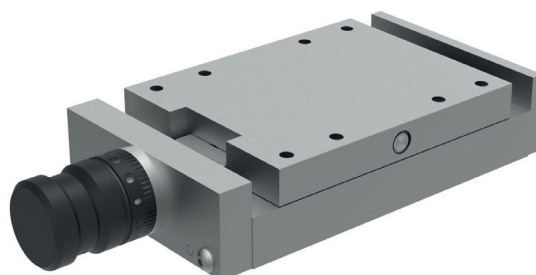


Positioning Stages

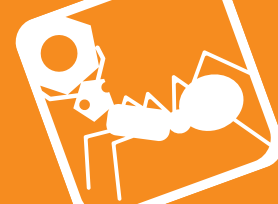
Carriage - Standard holes



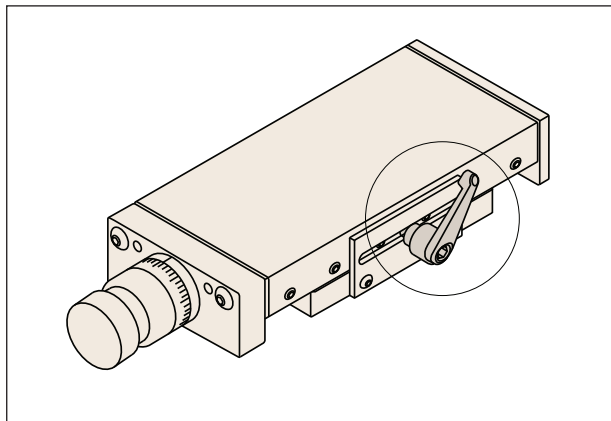
Base - Standard holes



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

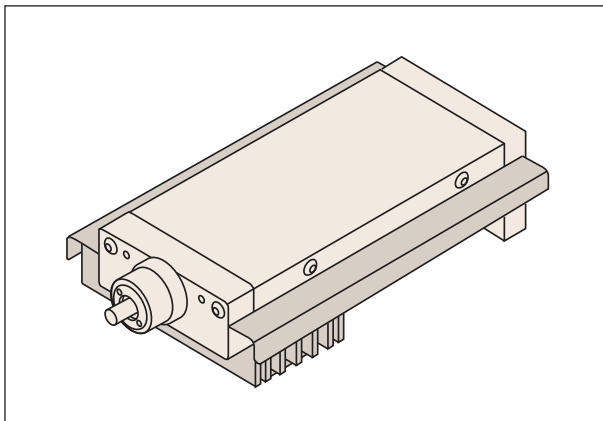


Locking device



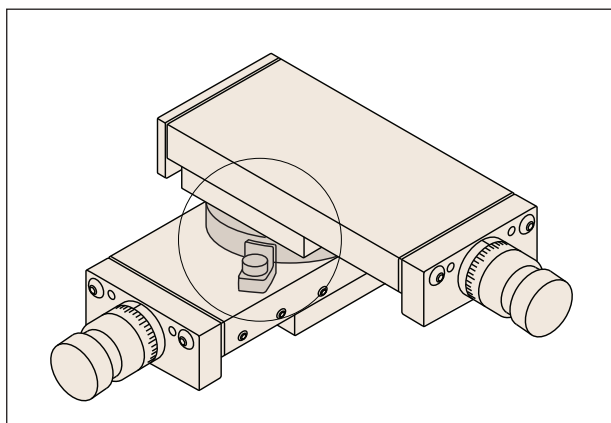
Either mounted on a side plate, a swivel rod or direct to slideway - dependent on stage type.

Bellows



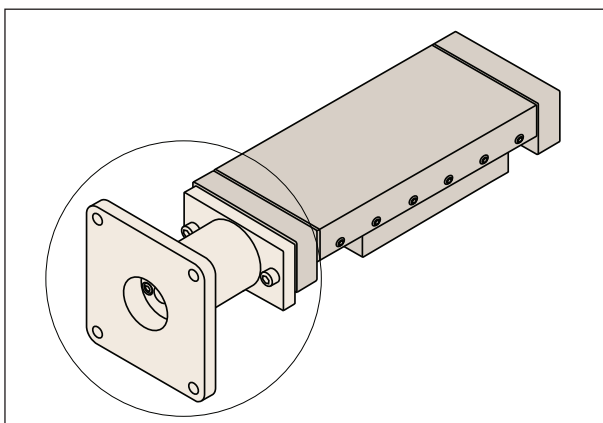
Recommended for general industrial applications. The installation of bellows affects the stroke, height and width of the slide. The bellows are made of PVC and can be used at temperatures up to 80° consult us for dimensions.

Swivelling plates



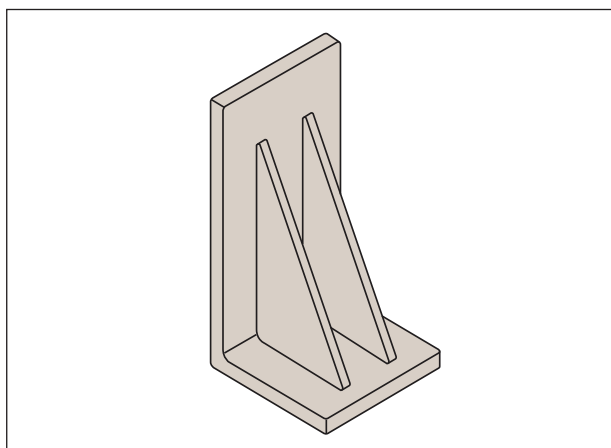
These can be rotated 360° in graduations of 10°. Graduations of 10° up to 90° clockwise and counter-clockwise.

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.