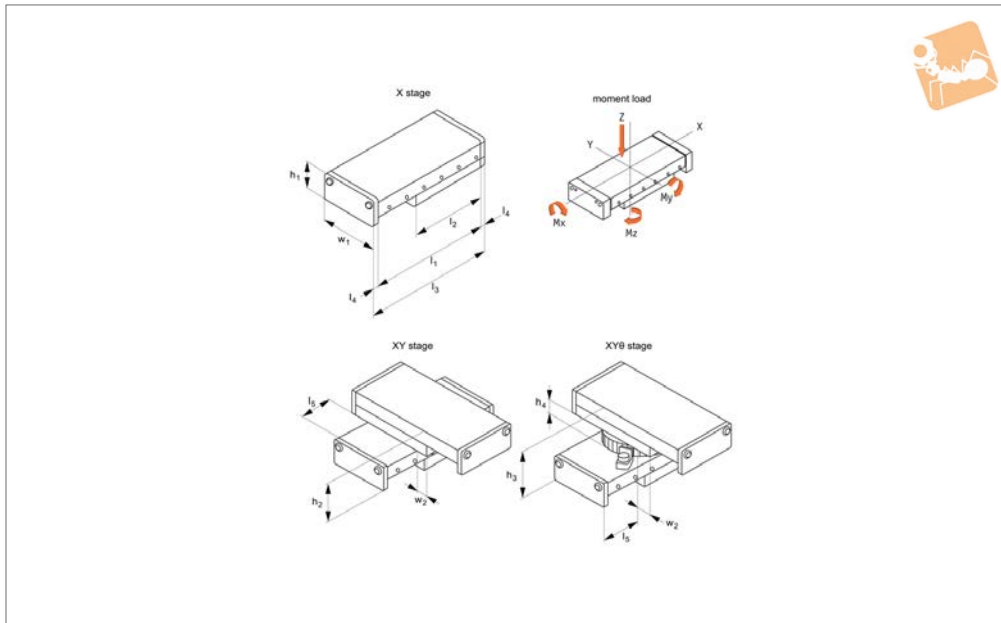
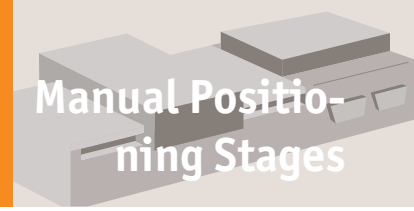




Plain Positioning Stages

dovetail

Manual Positioning Stages



L3180

MANUAL POSITIONING STAGES

Material

Cast iron body (ENGJL-250), with dovetail slide system.

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.

Dovetail linear guideways are very stable for use when a degree of vibration damping is required. Other versions are also available - cross roller slides (L3470), 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 0,1.

Tips

With no lead screw drive.

Replace -* with

- X for X axis stage
- XY for X,Y axes stage
- XYT for X,Y,. stage

Important Notes

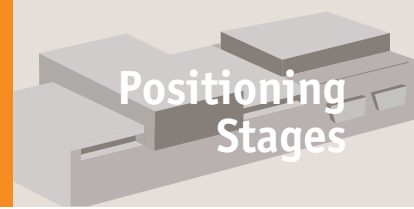
See technical pages for straightness and parallelism accuracy and standard carriage and base fixing holes - other fixing holes can be machined on request. 3D CAD models available.

| Order No. | Stroke | w ₁ | Load kN max. | h ₁ | l ₁ | l ₂ | l ₃ | l ₄ | l ₅ | Weight kg |
|-----------------|--------|----------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------|
| L3180.050-022-* | 22 | 50 | 0.5 | 25 | 76 | 50 | 88 | 6 | 13.0 | 0.6 |
| L3180.050-025-* | 25 | 50 | 0.7 | 25 | 102 | 76 | 114 | 6 | 26.0 | 0.8 |
| L3180.050-050-* | 50 | 50 | 1.0 | 25 | 152 | 101 | 164 | 6 | 51.0 | 1.1 |
| L3180.075-025-* | 25 | 75 | 10.5 | 32 | 102 | 76 | 114 | 6 | 13.5 | 1.8 |
| L3180.075-026-* | 25 | 75 | 14.0 | 32 | 127 | 101 | 139 | 6 | 26.0 | 2.0 |
| L3180.075-050-* | 50 | 75 | 14.0 | 32 | 152 | 101 | 164 | 6 | 38.5 | 2.5 |
| L3180.100-025-* | 25 | 100 | 19.5 | 37 | 152 | 126 | 164 | 6 | 26.0 | 4.0 |
| L3180.100-050-* | 50 | 100 | 23.6 | 37 | 203 | 152 | 215 | 6 | 51.5 | 4.7 |
| L3180.100-051-* | 50 | 100 | 31.5 | 37 | 254 | 203 | 266 | 6 | 77.0 | 6.1 |
| L3180.100-075-* | 75 | 100 | 35.4 | 37 | 305 | 228 | 317 | 6 | 102.5 | 7.0 |
| L3180.150-050-* | 50 | 150 | 30.7 | 50 | 203 | 152 | 219 | 8 | 26.5 | 10.0 |
| L3180.150-100-* | 100 | 150 | 41.0 | 50 | 305 | 203 | 321 | 8 | 77.5 | 13.2 |
| L3180.150-101-* | 100 | 150 | 61.5 | 50 | 406 | 304 | 422 | 8 | 128.0 | 18.0 |
| L3180.150-150-* | 150 | 150 | 51.2 | 50 | 406 | 253 | 422 | 8 | 128.0 | 16.5 |
| L3180.200-150-* | 150 | 200 | 86.8 | 58 | 457 | 304 | 473 | 8 | 128.5 | 30.0 |
| L3180.200-200-* | 200 | 200 | 116 | 58 | 610 | 406 | 626 | 8 | 205.0 | 40.0 |
| L3180.300-100-* | 100 | 300 | 114 | 75 | 410 | 308 | 430 | 10 | 55.0 | 59.0 |
| L3180.300-200-* | 200 | 300 | 150 | 75 | 610 | 408 | 630 | 10 | 155.0 | 80.0 |
| L3180.300-300-* | 300 | 300 | 150 | 75 | 710 | 408 | 730 | 10 | 205.0 | 92.0 |
| L3180.300-400-* | 400 | 300 | 187 | 75 | 910 | 508 | 930 | 10 | 305.0 | 110.0 |
| L3180.300-500-* | 500 | 300 | 187 | 75 | 1010 | 508 | 1030 | 10 | 355.0 | 125.0 |
| L3180.300-600-* | 600 | 300 | 224 | 75 | 1210 | 608 | 1230 | 10 | 455.0 | 145.0 |
| L3180.400-200-* | 200 | 400 | 233 | 102 | 610 | 408 | 650 | 20 | 105.0 | 169.0 |

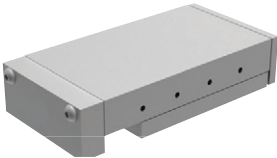




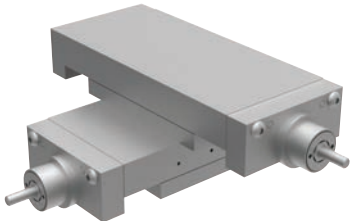


| Order No. | Stroke | w ₁ | Load kN max. | h ₁ | l ₁ | l ₂ | l ₃ | l ₄ | l ₅ | Weight kg |
|-----------------|--------|----------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|
| L3180.400-300-* | 300 | 400 | 233 | 102 | 710 | 408 | 750 | 20 | 155.0 | 182.0 |
| L3180.400-400-* | 400 | 400 | 233 | 102 | 810 | 408 | 850 | 20 | 205.0 | 195.0 |
| L3180.400-401-* | 400 | 400 | 290 | 102 | 910 | 508 | 950 | 20 | 255.0 | 225.0 |
| L3180.400-500-* | 500 | 400 | 290 | 102 | 1010 | 508 | 1050 | 20 | 305.0 | 238.0 |
| L3180.400-600-* | 600 | 400 | 290 | 102 | 1110 | 508 | 1150 | 20 | 355.0 | 251.0 |
| L3180.400-601-* | 600 | 400 | 347 | 102 | 1210 | 608 | 1250 | 20 | 405.0 | 270.0 |

| Order No. | w ₂ | h ₂ | h ₃ | h ₄ | Moment M _x Nm max. | Moment M _y Nm max. | Moment M _z Nm max. |
|-----------------|----------------|----------------|----------------|----------------|-------------------------------------|-------------------------------------|-------------------------------------|
| L3180.050-022-* | 0.0 | 50 | - | - | 3.4 | 1.8 | 2.1 |
| L3180.050-025-* | 13.0 | 50 | - | - | 5.2 | 4.1 | 4.9 |
| L3180.050-050-* | 25.5 | 50 | - | - | 6.9 | 7.2 | 8.6 |
| L3180.075-025-* | 0.5 | 64 | 82 | 18 | 10.0 | 5.1 | 6.1 |
| L3180.075-026-* | 13.0 | 64 | 82 | 18 | 14.0 | 9.1 | 10.0 |
| L3180.075-050-* | 13.0 | 64 | 82 | 18 | 14.0 | 9.1 | 10.0 |
| L3180.100-025-* | 13.0 | 74 | 92 | 18 | 33.0 | 20.0 | 24.0 |
| L3180.100-050-* | 26.0 | 74 | 92 | 18 | 40.0 | 29.0 | 35.0 |
| L3180.100-051-* | 51.5 | 74 | 92 | 18 | 54.0 | 52.0 | 63.0 |
| L3180.100-075-* | 64.0 | 74 | 92 | 18 | 61.0 | 66.0 | 79.0 |
| L3180.150-050-* | 1.0 | 100 | 120 | 20 | 77.0 | 30.0 | 36.0 |
| L3180.150-100-* | 26.5 | 100 | 120 | 20 | 103 | 54.0 | 65.0 |
| L3180.150-101-* | 77.0 | 100 | 120 | 20 | 155 | 123 | 146 |
| L3180.150-150-* | 51.5 | 100 | 120 | 20 | 129 | 85.0 | 101 |
| L3180.200-150-* | 52.0 | 116 | 136 | 20 | 275 | 164 | 195 |
| L3180.200-200-* | 103.0 | 116 | 136 | 20 | 365 | 290 | 245 |
| L3180.300-100-* | 4.0 | 150 | 180 | 30 | 605 | 235 | 280 |
| L3180.300-200-* | 54.0 | 150 | 180 | 30 | 800 | 410 | 490 |
| L3180.300-300-* | 54.0 | 150 | 180 | 30 | 800 | 410 | 490 |
| L3180.300-400-* | 104.0 | 150 | 180 | 30 | 1000 | 640 | 760 |
| L3180.300-500-* | 104.0 | 150 | 180 | 30 | 1000 | 640 | 760 |
| L3180.300-600-* | 154.0 | 150 | 180 | 30 | 1195 | 915 | 1095 |
| L3180.400-200-* | 4.0 | 204 | 244 | 40 | 1360 | 470 | 560 |
| L3180.400-300-* | 4.0 | 204 | 244 | 40 | 1360 | 470 | 560 |
| L3180.400-400-* | 4.0 | 204 | 244 | 40 | 1360 | 470 | 560 |
| L3180.400-401-* | 54.0 | 204 | 244 | 40 | 1695 | 730 | 870 |
| L3180.400-500-* | 54.0 | 204 | 244 | 40 | 1685 | 730 | 870 |
| L3180.400-600-* | 54.0 | 204 | 244 | 40 | 1695 | 730 | 870 |
| L3180.400-601-* | 104.0 | 204 | 244 | 40 | 2025 | 1050 | 1250 |



Heavy duty linear stages

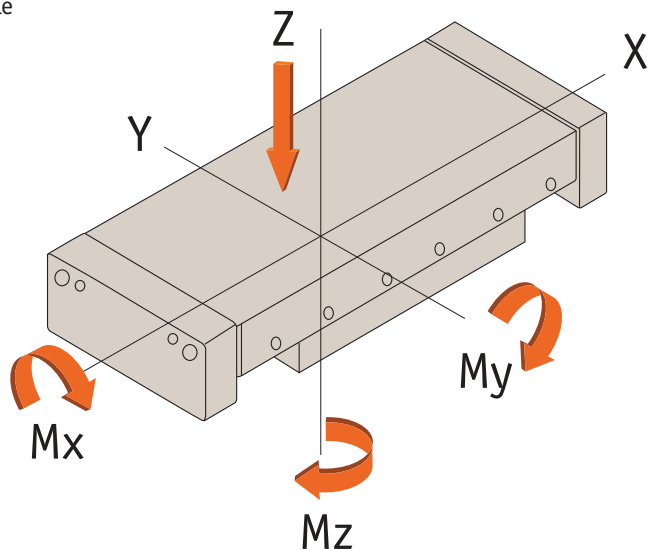
| | | |
|--|--|---|
| <p>Plain stages</p>  | <p>Lead screw & handle</p>  | <p>Lead screw & knob</p>  |
| <p>XYθ stage</p>  | <p>Motorised stage</p>  | <p>XY stage</p>  |

Available with the following sliding elements:


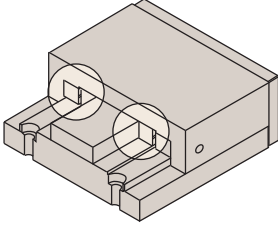
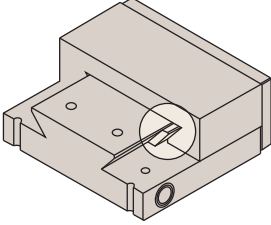
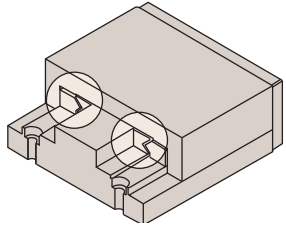
- Cross roller: For medium loads, low friction.
- Dovetail: Less expensive, higher friction, higher loads.
- Needle roller: Highest loads, low friction, more expensive.

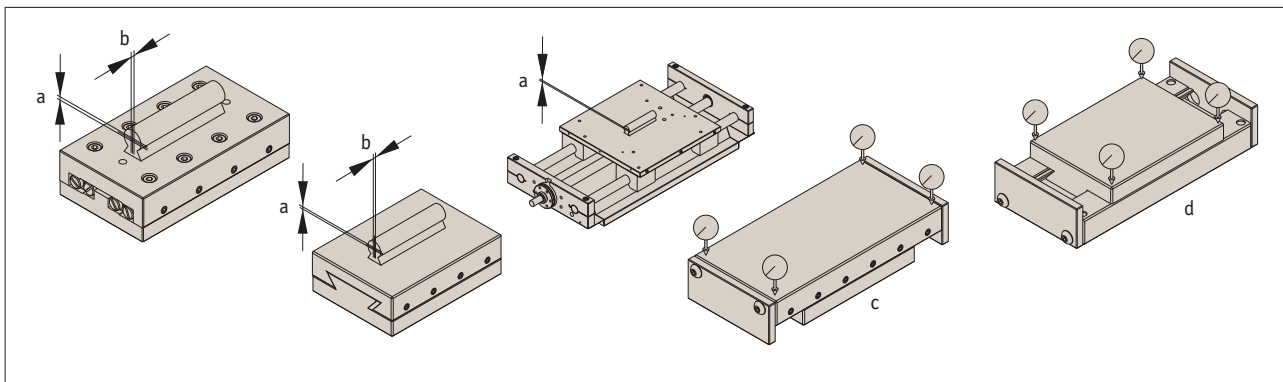
Moment loads

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 |

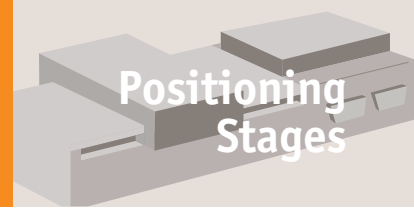
Height tolerance for roller and dovetail slides
 $\pm 0,01$ mm. DIN 7168 medium is the dimensional variations of the sliders. Closer tolerances upon request.

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



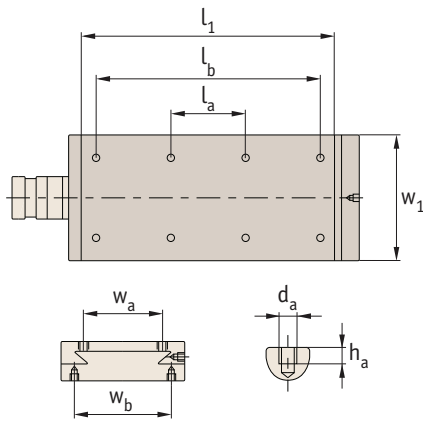
Heavy Duty Linear Stages

Standard mounting holes

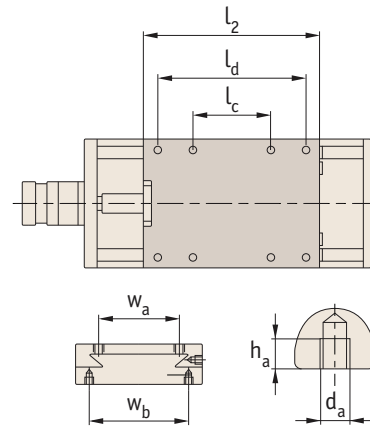
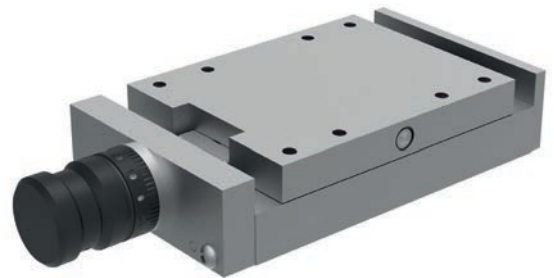


Positioning Stages

Carriage - Standard holes



Base - Standard holes



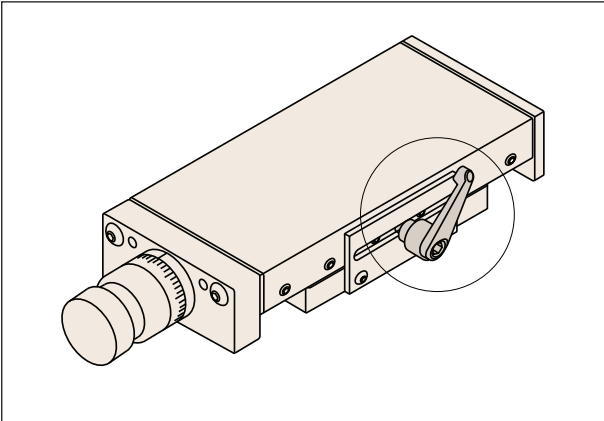
| Carriage | | | | | | | Base | | | | | |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| w ₁ | l ₁ | l _a | l _b | h _a | d _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

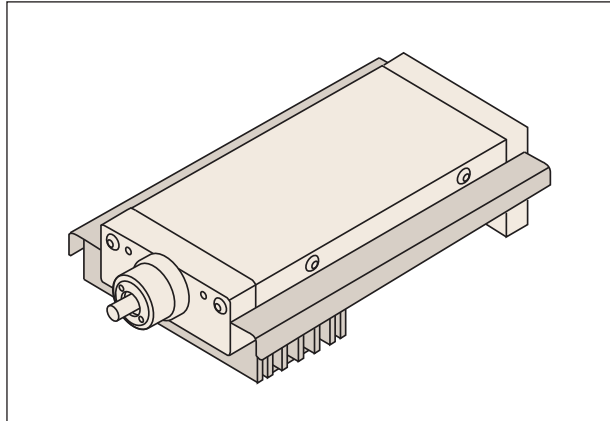


Locking device



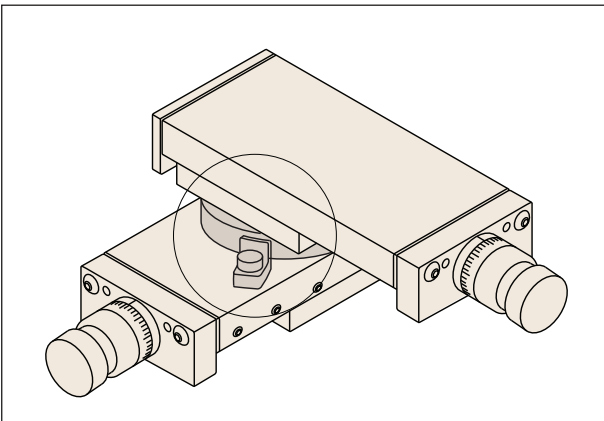
Either mounted on a side plate, a swivel rod or direct to slideway - dependent on stage type.

Bellows



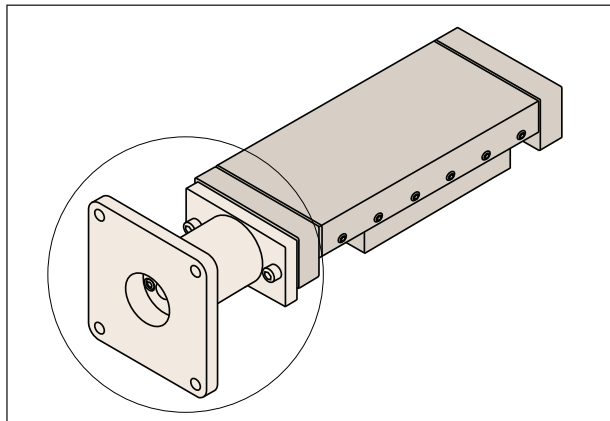
Recommended for general industrial applications. The installation of bellows affects the stroke, height and width of the slide. The bellows are made of PVC and can be used at temperatures up to 80° consult us for dimensions.

Swivelling plates



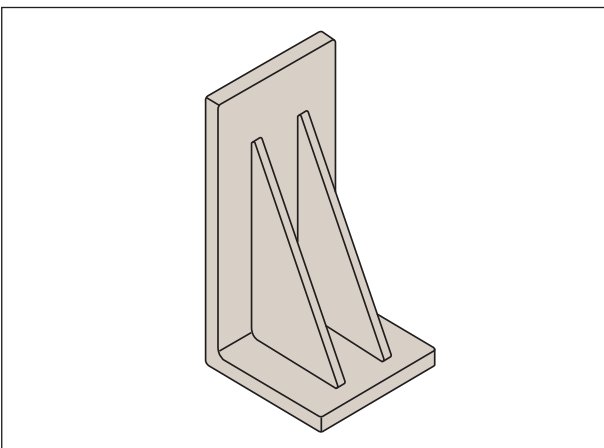
These can be rotated 360° in graduations of 10°. Graduations of 10° up to 90° clockwise and counter-clockwise.

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.