

MT130

Miniature Linear Stage

Compact linear stage with internal motor

The miniature linear stage provides excellent straightness and flatness thanks to backlash-free cross roller bearings. The drive is completely housed in the highly compact positioning system.

- Travels up to 80 mm for small installation spaces (130 x 130 x 43 mm)
- Repeatability up to $\pm 0.7 \mu\text{m}$
- Easily stackable to compact multi-axis systems

Options:

- Available with DC motor or stepper motor
- 3-axis compact unit: MP130-3
- Combinable with DT130 rotary stage
- Stainless steel option for increased rigidity
- Version for clean room, vacuum and EUV



Fields of application

Positioning in small spaces e.g. camera, microscope (AFM, WLI), setup of minimum space XYZ multi-axis systems, manipulator for industry and research, compact clean room positioning systems, wafer inspection, wafer prober alignment



XYZ-Combination MP130-3
Dimension 220 x 130 x 130 mm
Travel 50 x 50 x 50 mm



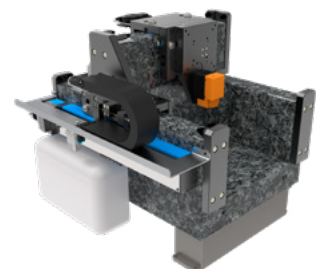
XYZ-Rxyz-Combination MP130-3-3
Dimension 290 x 180 x 202 mm
Travel 50 x 50 x 50 mm, 2 x 2 x 2°

Recommended Motion Controllers

- FMC 220 (24 V)
- FMC 250/280 (48 V / 80 V)
- Integration into ACS architectures
- Integration into PLC architectures



XZ-Phi System
Surface Inspection (WLI)
Travel 260 x 50 mm x 360°



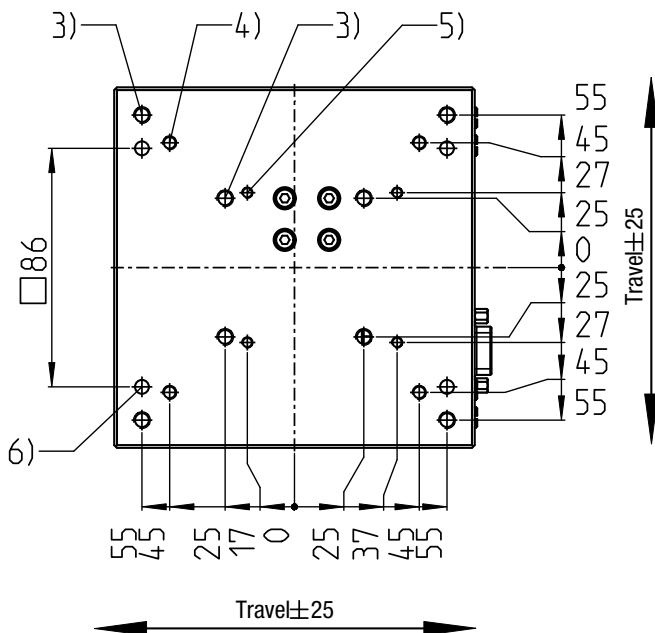
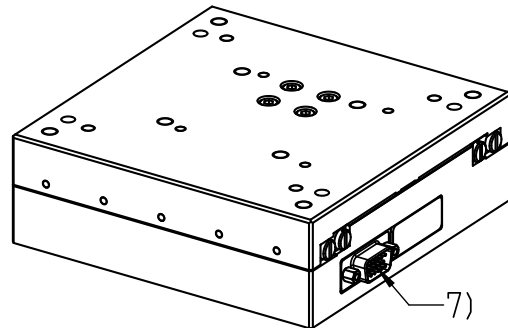
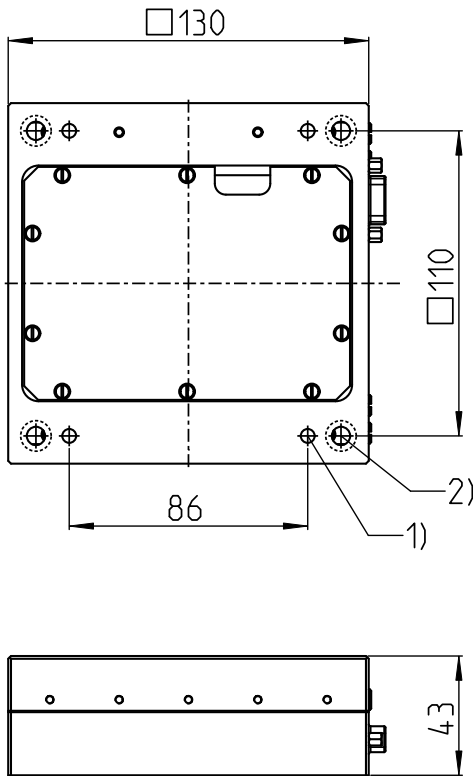
XYZ Gantry
Surface Inspection (AFM)
Travel 275 x 150 x 50 mm

Specifications

MT130		-50-DC-R	-80-DC-R	-50-DC-L	-80-DC-L	-50-SM	-80-SM
Travel	[mm]	50	80	50	80	50	80
Repeatability unidirectional	[μm]	± 2.5	± 2.5	± 0.7	± 0.7	± 2.3	± 2.3
Repeatability bidirectional	[μm]	± 4.5	± 4.5	± 1.2	± 1.2	± 4.3	± 4.3
Accuracy	[μm]	± 8.3	± 10	± 2.3	± 2.6	± 8.1	± 9.7
Flatness	[μm]	± 2.5	± 4	± 2.5	± 4	± 2.5	± 4
Straightness	[μm]	± 1.8	± 2.8	± 1.8	± 2.8	± 1.8	± 2.8
Positioning speed	[mm/s]	30	30	30	30	20	20
Max. speed	[mm/s]	60	60	60	60	40	40
Max. acceleration	[m/s ²]	0.5	0.5	0.5	0.5	0.4	0.4
Max. load Fx	[N]	45	45	45	45	45	45
Max. load Fy	[N]	95	95	95	95	95	95
Max. load Fz	[N]	95	95	95	95	95	95
Max. torque Mx	[Nm]	4.6	4.6	4.6	4.6	4.6	4.6
Max. torque My	[Nm]	1.8	1.8	1.8	1.8	1.8	1.8
Max. torque Mz	[Nm]	1.6	1.6	1.6	1.6	1.6	1.6
Pitch	[μrad]	± 70	± 90	± 70	± 90	± 70	± 90
Yaw	[μrad]	± 40	± 55	± 40	± 55	± 40	± 55
Weight	[kg]	1.8	2.3	1.8	2.3	1.8	2.3
Length	[mm]	130	130	130	130	130	130
Width	[mm]	130	130	130	130	130	130
Height	[mm]	43	43	43	43	43	43
Motor		DC-Motor		DC-Motor		Stepper Motor	
Feedback		Motor-Encoder		Linear Scale		Open Loop	

Specifications are subject to change. Values are for the single axis with our controller. Parameters shown here are typical values for a standard configuration. By customization and given in depth knowledge of your application significantly improved values can be achieved. Please contact us.

Dimensions / Interface

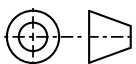


*) positional accuracy between fits: $\ominus 0.02$

- 1) $\varnothing 5H7$; depth 10 (4x)
- 2) counterbore for screw DIN 912 / ISO 4782
M6 (4x) used from top-side
- 3) M6; depth 10 (8x)
- 4) M5; depth 9 (4x)
- 5) M4; depth 8 (4x)
- 6) $\varnothing 5H7$; depth 5 (4x)

7) terminal (number and types of connectors depending on selected equipment)

requirement on mounting surfaces: flatness 0.01 mm



drawingscale: 2:5
metric system (mm)

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