

# KDT180

## Flat XY aperture stage

### XY stage in plate architecture with aperture

The KDT180 is a universally applicable stage, which convinces with its extremely flat design and the large aperture of 90 x 90 mm. The aperture enables differential measurements excluding residual errors of the stage or transmitted light measurements. This stage is therefore particularly suitable for metrology and optical applications.

- Compact and flat with large aperture
- Ideal for microscopy, inspection and metrology
- Precise repeatability up to 1.1  $\mu\text{m}$
- Available with DC or stepper motor



### Fields of application

Applications in microscopy, metrology, optics, 3D imaging, autofocus systems, electronics assembly, optics positioning, sample positioning, semiconductor inspection, measurement systems, measuring equipment

### Recommended Motion Controller

#### FMC 220

- Motion Control of 1 – 128 axes simultaneously
- Versatile combinable controller
- Ideal for laboratory applications



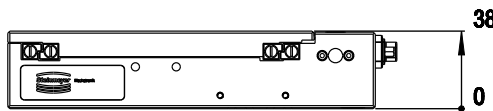
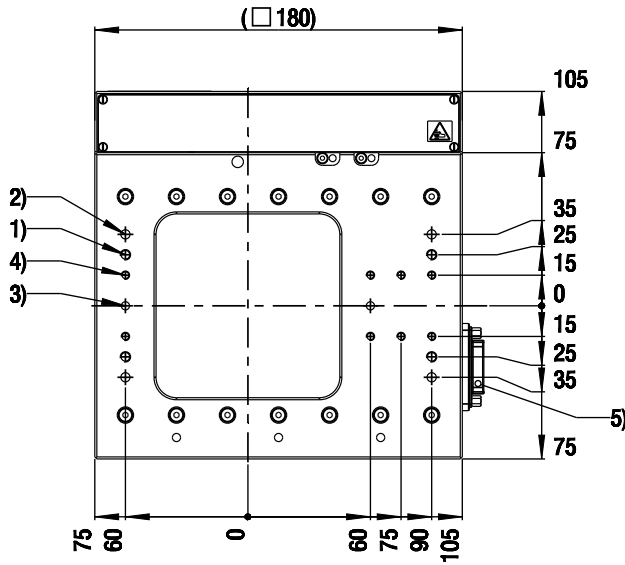
#### FMC400/450

- Multi-axis Motion Controller, fully ready for tracking
- Tracks programmable in up to 8 degrees of freedom
- Easy creation of customized programs



## Specifications

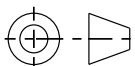
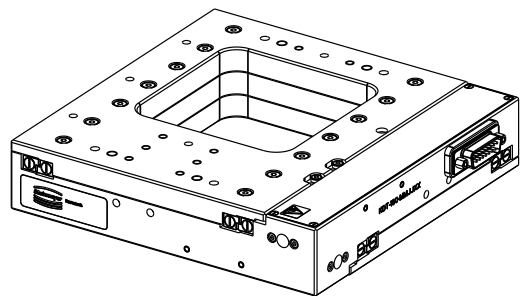
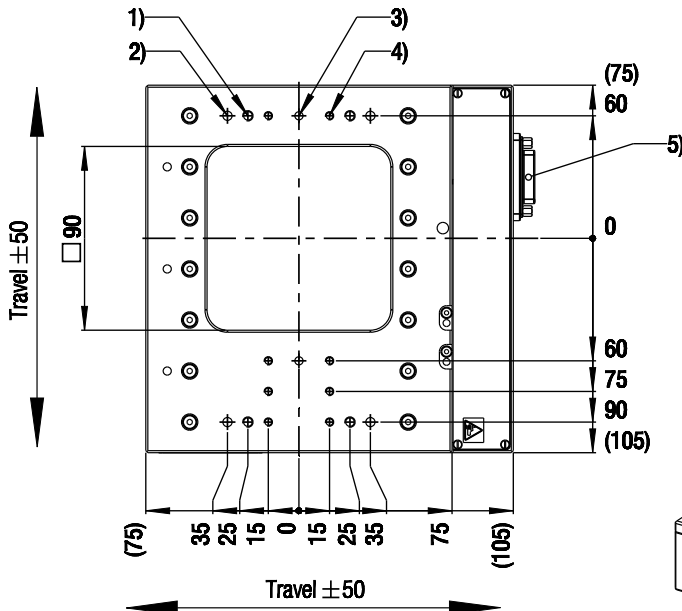
KDT180		-50-DC-R	-50-SM
Travel	[mm]	50	50
Repeatability unidirectional	[ $\mu\text{m}$ ]	$\pm 1.1$	$\pm 2.3$
Repeatability bidirectional	[ $\mu\text{m}$ ]	$\pm 2.1$	$\pm 3.3$
Accuracy	[ $\mu\text{m}$ ]	$\pm 13.1$	$\pm 14.3$
Flatness	[ $\mu\text{m}$ ]	$\pm 4.8$	$\pm 4.8$
Straightness	[ $\mu\text{m}$ ]	$\pm 3.6$	$\pm 3.6$
Positioning speed	[mm/s]	2.5	20
Max. speed	[mm/s]	5	40
Max. acceleration	[m/s <sup>2</sup> ]	0.05	0.4
Max. load Fx	[N]	45	5.3
Max. load Fy	[N]	45	5.3
Max. load Fz	[N]	55	55
Max. torque Mx	[Nm]	0.9	0.9
Max. torque My	[Nm]	0.9	0.9
Max. torque Mz	[Nm]	0.7	0.7
Pitch	[ $\mu\text{rad}$ ]	$\pm 120$	$\pm 120$
Yaw	[ $\mu\text{rad}$ ]	$\pm 75$	$\pm 75$
Weight	[kg]	2.5	2.5
Length	[mm]	180	180
Width	[mm]	180	180
Height	[mm]	38	38
Aperture	[mm]	90 x 90	90 x 90
Motor		DC-Motor	Stepper Motor
Feedback		Motor-Encoder	Open Loop



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

- 1) M5; depth 10 (4x)
- 2) counterbore for screw DIN 7984 - M4 (4x) used from bottom-side
- 3)  $\varnothing 4H7$ ; depth 5 (2x)
- 4) M4; depth 8 (8x)
- 5) terminal (number and types of connectors depending on selected equipment)

requirement on mounting surfaces: flatness 0.01 mm



drawingscale: 3:10  
metric system (mm)

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