

Scanning Stage SCAN 75 × 50 for Upright Microscopes

Specifications

Travel range	max. 76 × 52 mm
Travel speed	max. 25 mm/s (with 1 mm ball screw pitch) max. 50 mm/s (with 2 mm ball screw pitch)
Repeatability	< 1 µm (bi-directional) ¹
Accuracy	±3 µm ¹
Resolution	0.01 µm (smallest step size)
Orthogonality	< 10 arcsec
Motor	2-phase stepper motor
Limit switches	optical light beams
Stage opening	116 × 116 mm
Material / surface	aluminium / anodic coating, black laquered
Weight	approx. 2.6 kg (without stage insert)

Order Information

Order No.: 00-24-561-0000
(1 mm ball screw pitch)

Order No.: 00-24-562-0000
(2 mm ball screw pitch)

Product Features

- ▶ flat, ergonomic design with rounded corners
- ▶ plain surface for easy cleaning
- ▶ exchangeable stage inserts for different kinds of applications
- ▶ motor cable connection front right
- ▶ integrated electronic stage identification device ETS for automatic identification of the scanning stage and parametrization of the controller
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller

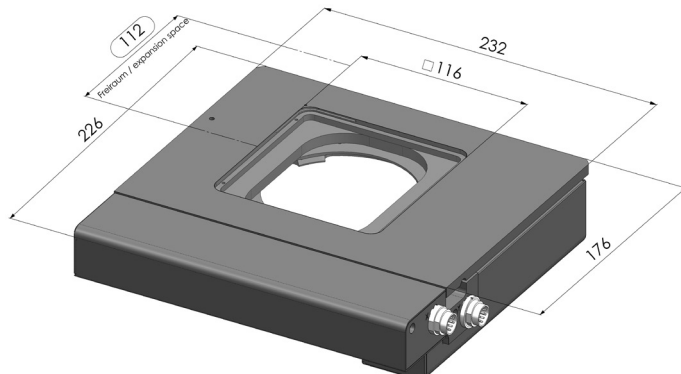
Accessories

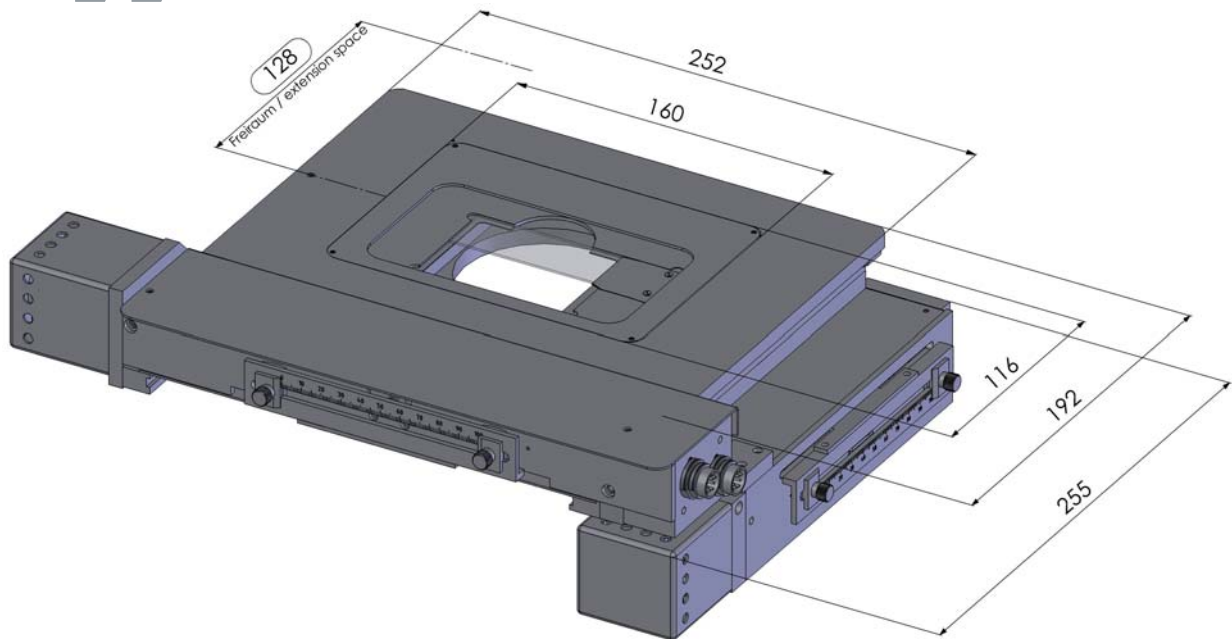
Glass plate (included in delivery)
Order No.: 00-24-401-0810

Stage insert for 1 slide 76 × 26 mm (3" × 1")
Order No.: 00-29-401-8010

For further accessories please visit:
www.marzhauser.com

Dimensions





▶ Scanning Stage SCAN 100 x 80 for upright microscopes

	Specifications
Travel range:	max. 100 x 80 mm
Repeatability:	< 1 µm* measured according to VDI / DGQ 3441
Accuracy:	+/- 3 µm* measured according to VDI / DGQ 3441
Orthogonality:	< 40 sec., typically < 25 sec.
Resolution:	0,05 µm* (smallest step size)
Max. travel speed:	60 mm/s*, with 1 mm lead screw pitch 120 mm/s*, with 2 mm lead screw pitch 240 mm/s*, with 4 mm lead screw pitch
Motor:	2-phase stepper motor
Material:	aluminium
Limit switches:	adjustable limit switches
Weight:	4.300 g
Surface:	anodic coating, black
Certification:	DIN EN ISO 9001 : 2000
Packaging size / weight:	58 x 48 x 38 cm / 8 kg

Order Information

Part No.: 00-24-427-0000, with 1 mm lead screw pitch
 Part-No.: 00-24-428-0000, with 2 mm lead screw pitch
 Part-No.: 00-24-429-0000, with 4 mm lead screw pitch

Features

- ▶ adjustable limit switches for individual travel range limitation
- ▶ exchangeable stage inserts for different kinds of applications
- ▶ motor cable connection front right
- ▶ optional measuring system for closed-loop operation available

Accessories

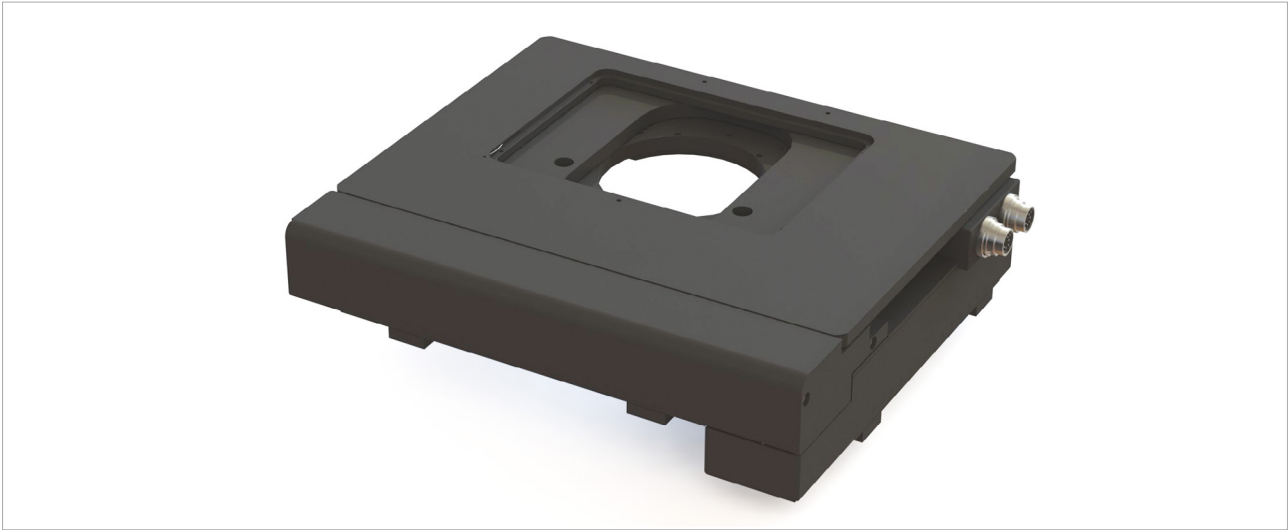
See accessories list!

* Specifications valid with Märzhäuser stage controller only

Specifications subject to change without notice.

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Scanning Stage SCAN 100 × 100 for Upright Microscopes

Specifications

Travel range	max. 100 × 100 mm
Travel speed	max. 60 mm/s (with 1 mm ball screw pitch) max. 120 mm/s (with 2 mm ball screw pitch) max. 240 mm/s (with 4 mm ball screw pitch)
Repeatability	≤ 0.2 μm ¹
Accuracy	±3 μm ²
Resolution	0.01 μm (smallest step size)
Orthogonality	< 10 arcsec
Motor type	2-phase stepper motor
Limit switches	continuously adjustable optical light barriers
Material / surface	aluminium / anodic coating, black laquered
Weight	ca. 4.4 kg

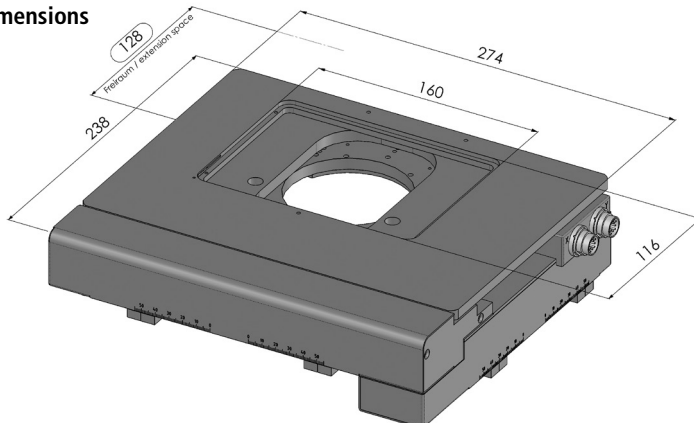
Order Information

Order No.: 00-24-567-0000 (1 mm)
 Order No.: 00-24-568-0000 (2 mm)
 Order No.: 00-24-569-0000 (4 mm)

Product Features

- ▶ flat, ergonomic design with rounded corners
- ▶ plain surface for easy cleaning
- ▶ exchangeable stage inserts for different kinds of applications
- ▶ continuously adjustable optical light barriers for individual travel range limitation
- ▶ integrated electronic stage identification device ETS for automatic identification of the scanning stage and parametrization of the controller
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller

Dimensions



Accessories

Glass plate (included in delivery)
 Order No.: 00-24-427-0810

For further accessories please visit:
www.marzhauser.com



Fig. shows stage insert for 4 slides

Scanning Stage SCAN 130 × 85 for Upright Microscopes

Specifications

Travel range	max. 130 × 85 mm
Travel speed	max. 120 mm/s (with 2 mm ball screw pitch) max. 240 mm/s (with 4 mm ball screw pitch)
Repeatability	< 1 µm ¹ (bi-directional)
Accuracy	±3 µm ¹
Resolution	0.01 µm (smallest step size)
Orthogonality	< 10 arcsec
Motor type	2-phase stepper motor
Limit switches	continuously adjustable light barriers
Material / surface	aluminium / anodic coating, black laquered
Weight	ca. 4.4 kg

Order Information

Leica DM4000 – DM6000:
 Order No.: 31-24-640-0000 (2 mm)
 Order No.: 31-24-641-0000 (4 mm)

Nikon:
 Order No.: 45-24-640-0000 (2 mm)
 Order No.: 45-24-641-0000 (4 mm)

Olympus BX series:
 Order No.: 48-24-640-0000 (2 mm)
 Order No.: 48-24-641-0000 (4 mm)

Product Features

- ▶ flat, ergonomic design with rounded corners
- ▶ exchangeable stage inserts for different kinds of applications, also for well plates or 4 slides
- ▶ integrated electronic stage identification device ETS for automatic identification of the scanning stage and parametrization of the controller
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller

Accessories

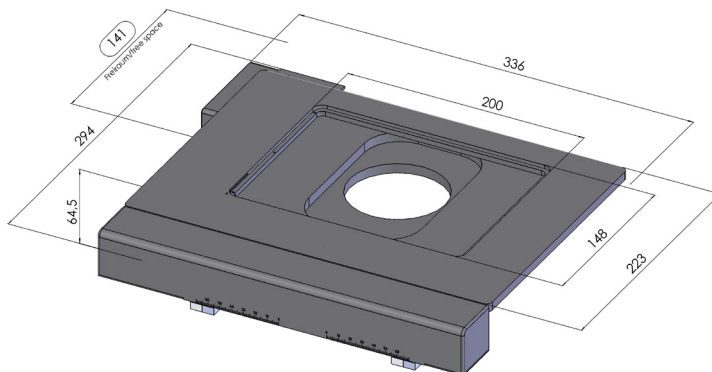
Stage insert for 1 slide 76 × 26 mm (3 × 1")
 or 76 × 52 mm (3 × 2")
 (included in delivery)

Order No.: 48-24-520-2000

Stage insert for 4 slides
 Order No.: 48-24-520-3000

Stage insert for 1 well plate
 Order No.: 48-24-520-4000

Dimensions





Scanning Stage SCAN 150 × 150 for Upright Microscopes

Specifications

Travel range	max. 150 × 150 mm
Travel speed	max. 120 mm/s (with 2 mm ball screw pitch) max. 240 mm/s (with 4 mm ball screw pitch)
Repeatability	≤ 0.2 μm ¹
Accuracy	±3 μm ²
Resolution	0.01 μm (smallest step size)
Orthogonality	< 10 arcsec
Motor type	2-phase stepper motor
Limit switches	continuously adjustable optical light barriers
Material / surface	aluminium / anodic coating, black laquered
Weight	approx. 6.2 kg

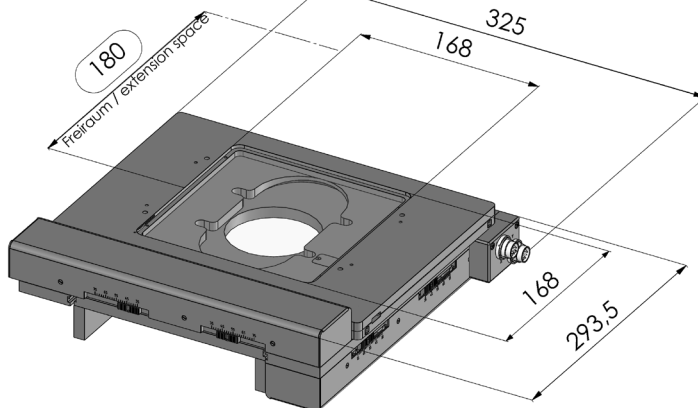
Order Information

Order No.: 00-24-633-0000 (2 mm)
 Order No.: 00-24-634-0000 (4 mm)

Product Features

- ▶ flat, ergonomic design with rounded corners
- ▶ plain surface for easy cleaning
- ▶ exchangeable stage inserts for different kinds of applications
- ▶ continuously adjustable optical light barriers for individual travel range limitation
- ▶ integrated electronic stage identification device ETS for automatic identification of the scanning stage and parametrization of the controller
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller

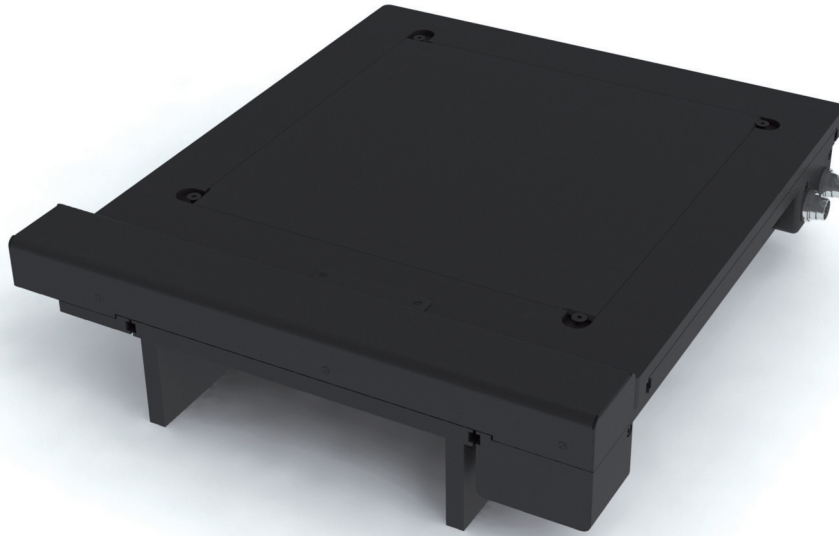
Dimensions



Accessories

- Glass plate (included in delivery)
Order No.: 00-24-601-0810
- Metal plate
Order No.: 00-24-601-0011
- Wafer holder, rotatable, for 5" – 6" wafer
Order No.: 00-29-640-8000
- Vacuum wafer holder, rotatable, for 5" – 6" wafer
Order No.: 00-29-650-8000

For further accessories please visit:
www.marzhauser.com



▶ **Scanning Stage SCAN 200 x 200** for Upright Microscopes

Travel range:	200 x 200 mm (8" x 8")
Repeatability:	< 1 µm (bi-directional, measured according to VDI / DGQ 3441)
Accuracy:	+/- 3 µm (measured according to VDI / DGQ 3441)
Resolution:	0,01 µm (smallest step size)
Orthogonality:	< 10 arc sec
Motor:	2-phase stepper motor
Max. travel speed:	60 mm/s, with 1 mm ball screw pitch 120 mm/s, with 2 mm ball screw pitch 240 mm/s, with 4 mm ball screw pitch
Limit switches:	hall sensors
Material:	aluminium
Surface:	anodic coating, black laquered
Weight:	8,900 g

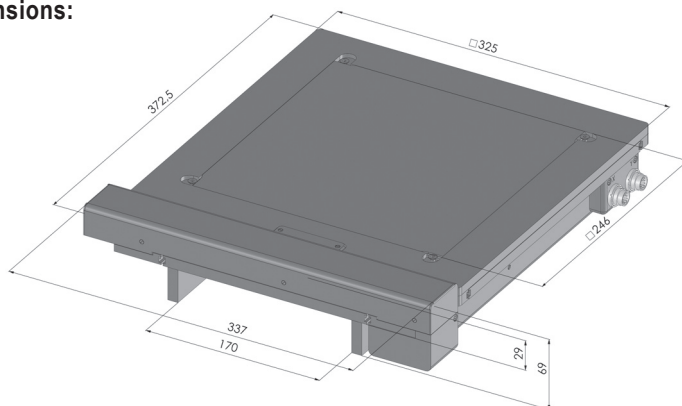
Order Information

Order No.: 00-24-835-0000, 1 mm ball screw pitch
 Order No.: 00-24-836-0000, 2 mm ball screw pitch
 Order No.: 00-24-837-0000, 4 mm ball screw pitch

Product Features

- ▶ flat, ergonomic design with rounded corners
- ▶ L-shaped support stages optional available
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller!

Dimensions:

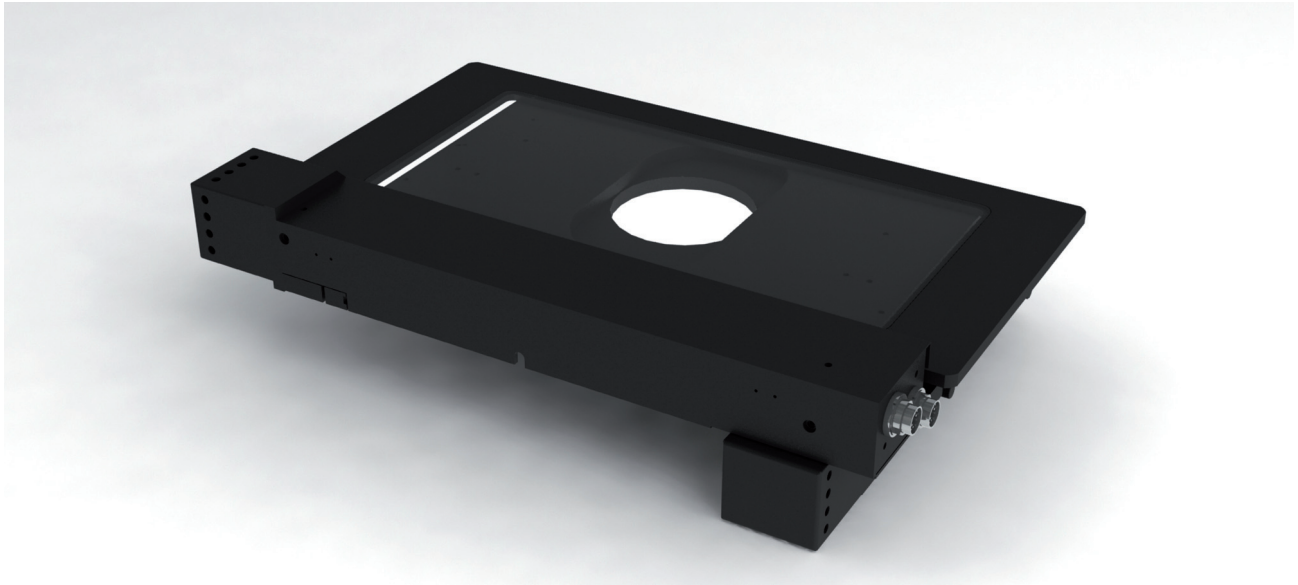


Accessories

Metall plate (included in delivery)
 Order No.: 00-24-801-0011

For further accessories please refer to:
www.marzhauser.com





▶ **Scanning Stage SCAN 225 x 76** for Upright Microscopes

Travel range:	225 x 76 mm (9" x 3")
Repeatability:	< 1 µm (bi-directional, measured according to VDI / DGQ 3441)
Accuracy:	+/- 3 µm (measured according to VDI / DGQ 3441)
Resolution:	0,01 µm (smallest step size)
Orthogonality:	< 10 arc sec
Motor:	2-phase stepper motor
Max. travel speed:	60 mm/s, with 1 mm ball screw pitch 120 mm/s, with 2 mm ball screw pitch 240 mm/s, with 4 mm ball screw pitch
Limit switches:	adjustable limit switches
Material:	aluminium
Surface:	anodic coating, black laquered
Weight:	4,400 g

Order Information

Order No.: 00-24-534-0000, 1 mm ball screw pitch
 Order No.: 00-24-535-0000, 2 mm ball screw pitch
 Order No.: 00-24-536-0000, 4 mm ball screw pitch

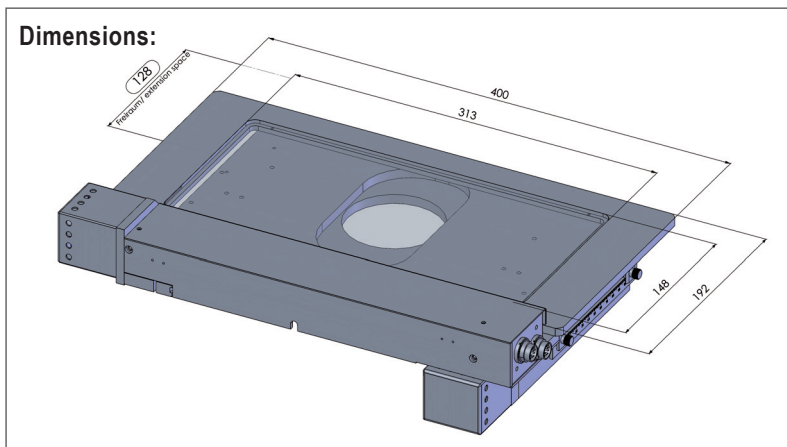
Product Features

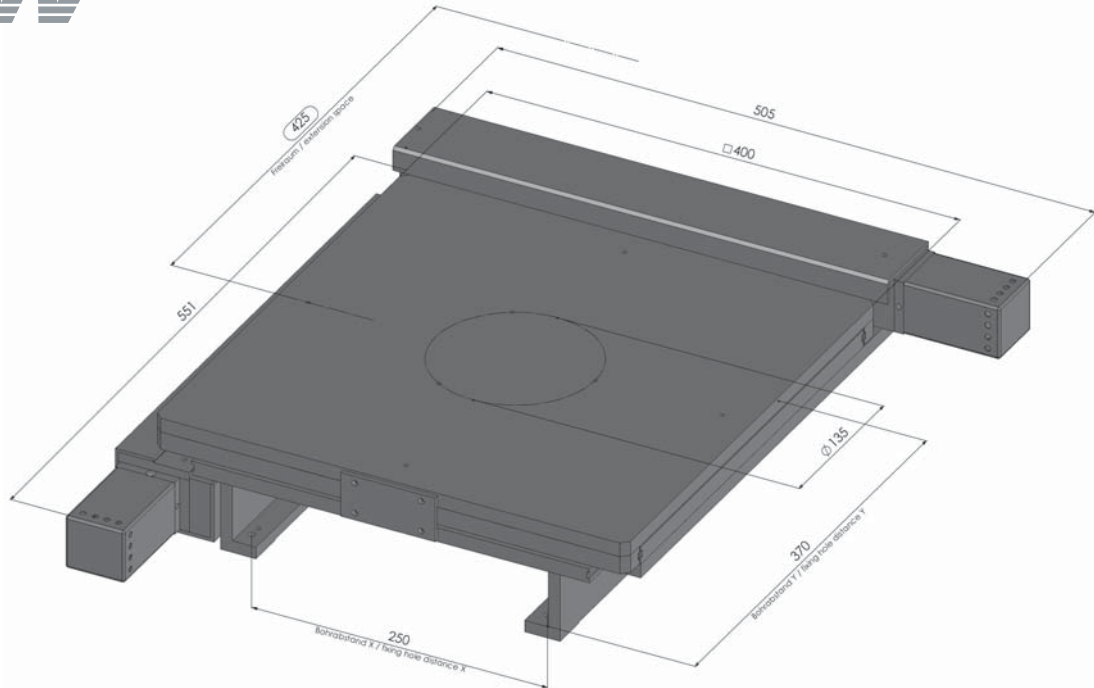
- ▶ exchangeable stage inserts for different kinds of applications
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller!

Accessories

Glass plate (included in delivery)
 Order No.: 00-24-491-0810

For further accessories please refer to:
www.marzhauser.com





▶ Motorized Microscope Stage SCAN 300 x 300

	Specifications	Order Information
Travel range:	300 x 300 mm (12" x 12")	Part No.: 00-24-121-0000, with 1 mm lead screw pitch Part No.: 00-24-122-0000, with 2 mm lead screw pitch Part No.: 00-24-124-0000, with 4 mm lead screw pitch
Repeatability:	< 1 µm* measured according to VDI / DGQ 3441	
Accuracy:	+/- 5 µm* measured according to VDI / DGQ 3441	
Orthogonality:	< 40 sec., typically < 15 - 20 sec.	
Resolution:	0,1 µm (smallest step size)	Features
Motor:	2-phase stepper motor	<ul style="list-style-type: none"> ▶ 5 years guarantee, if the scanning stage is operated in the system with the Märzhäuser TANGO controller! ▶ closed top plate for reflected-light applications ▶ L-shaped support stages or microscope-specific adaptations available ▶ The integrated electronic stage identification device ETS enables automatic identification of the scanning stage as well as the parametrization of the controller.
Max. travel speed:	60 mm/s with 2 mm lead screw pitch 120 mm/s with 2 mm lead screw pitch 240 mm/s with 4 mm lead screw pitch	
Material:	aluminium	
Weight:	19.500 g	
Surface:	anodic coating, black	
Certification:	DIN EN ISO 9001 : 2000	Accessories
Packaging type:	protective polyurethane foam	Wafer holder, rotating for 8" and 12" wafer Part No.: 00-29-340-8000
Packaging size / weight:	82 x 65 x 41 cm / 30 kg	Vacuum wafer holder, rotating for 8" and 12" wafer Part No.: 00-29-350-8000

* Specifications valid with Märzhäuser stage controller only

Specifications subject to change without notice.

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Scanning Stage SCAN for 8 Slides for Upright Microscopes

Specifications

Travel range	max. 225 × 76 mm
Travel speed	max. 120 mm/s (with 2 mm ball screw pitch) max. 240 mm/s (with 4 mm ball screw pitch)
Repeatability	< 1 µm ¹ (bidirectional)
Accuracy	±3 µm ¹
Resolution	0.01 µm (smallest step size)
Orthogonality	< 10 arcsec
Motor type	2-phase stepper motor
Limit switches	mechanical limit switches
Material / surface	aluminium / anodic coating, black lacquered
Weight	approx. 5 kg

Order Information

Order No.: 00-24-506-0000 (2 mm)
 Order No.: 00-24-507-0000 (4 mm)

Product Features

- ▶ special stage opening for stage inserts with 8 slides
- ▶ microscope specific stage insert included in delivery
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller

Accessories

Standard stage insert for 8 slides
 Order No.: 00-24-505-1100

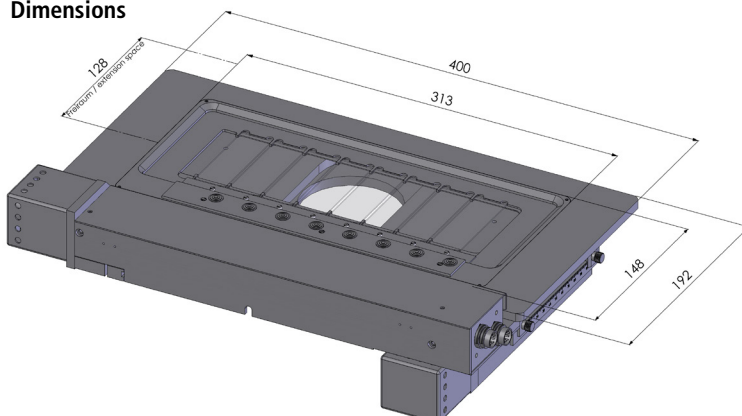
Stage insert for 8 slides for Nikon Eclipse 80i
 Order No.: 45-24-505-1000

Stage insert for 8 slides for Zeiss Axio Imager
 Order No.: 90-24-505-1000

Metal plate
 313 × 148 × 6 mm
 Order No.: 00-24-505-0011

For further accessories please visit:
www.marzhauser.com

Dimensions





► Scanning Stage SCAN IM 80 x 55 for Olympus BX 45

Travel range:	80 x 55 mm (3,15" x 2,15")
Repeatability:	< 1 µm (bi-directional, measured according to VDI / DGQ 3441)
Accuracy:	+/- 3 µm (measured according to VDI / DGQ 3441)
Resolution:	0,01 µm (smallest step size)
Orthogonality:	< 10 arc sec
Motor:	2-phase stepper motor
Max. travel speed:	60 mm/s, with 1 mm ball screw pitch 120 mm/s, with 2 mm ball screw pitch
Limit switches:	mechanical limit switches
Material:	aluminium
Surface:	anodic coating, black laquered
Weight:	4,300 g

Order Information

Order No.: 00-24-440-0000, 1 mm ball screw pitch
 Order No.: 00-24-441-0000, 2 mm ball screw pitch

Product Features

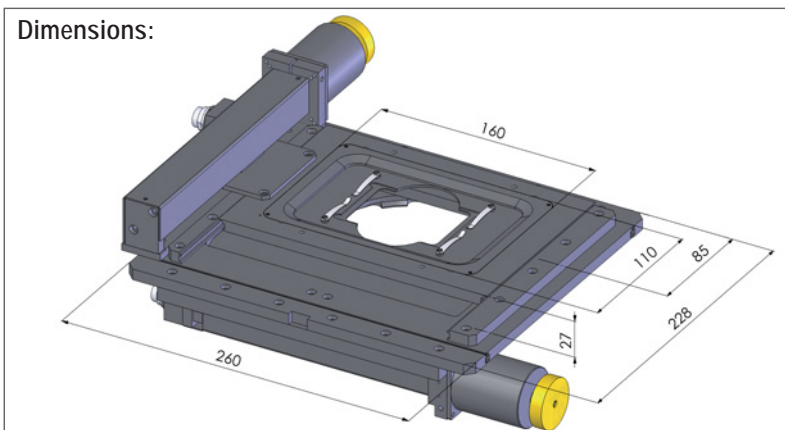
- exchangeable stage inserts for different kinds of applications
- 5 years guarantee, if the scanning stage is operated in the system with the Märzhäuser TANGO controller!

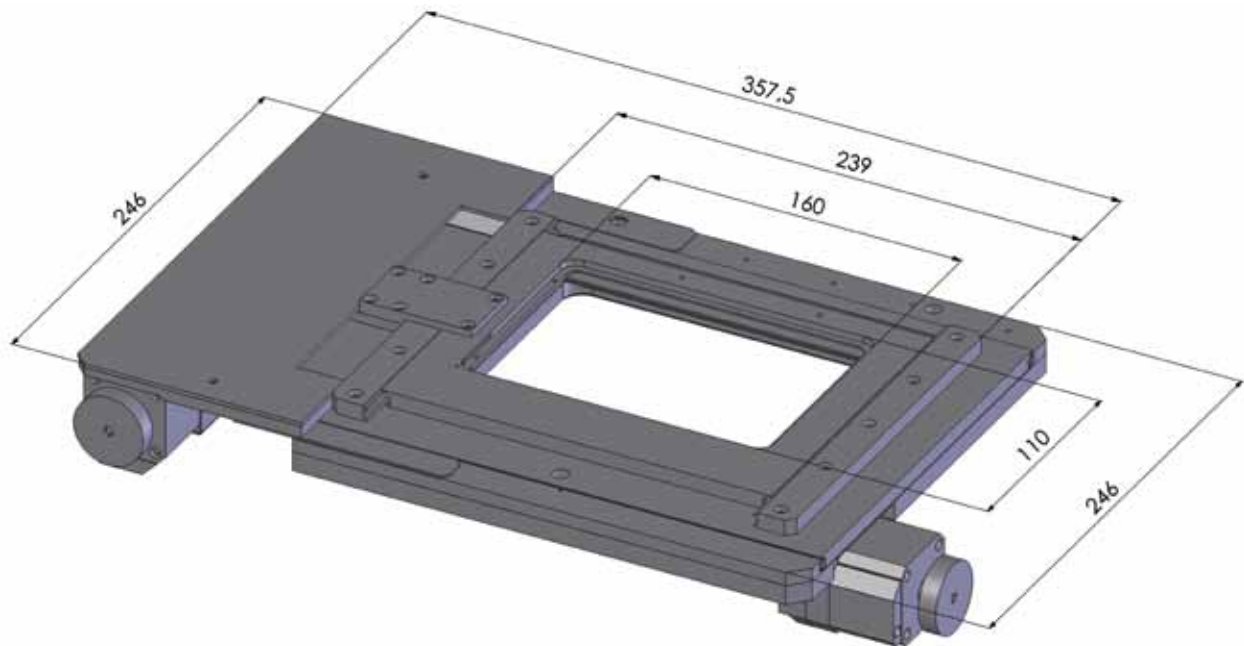
Accessories

Stage insert for 2 slides 3" x 1"
 (included in delivery)
 Order No.: 00-24-440-1000

For further accessories please refer to:
www.marzhauser.com

Dimensions:





► **Scanning Stage SCAN IM 100 x 40** for DMI 5000

Specifications

Travel range:	max. 100 x 40 mm
Repeatability:	< 1 µm* measured according to VDI / DGQ 3441
Accuracy:	+/- 3 µm* measured according to VDI / DGQ 3441
Orthogonality:	< 40 sec., typically < 15 - 20 sec.
Resolution:	< 0,05 µm* (smallest step size)
Max. travel speed:	60 mm/s*, with 1 mm lead screw pitch 120 mm/s*, with 2 mm lead screw pitch
Motor:	2-phase stepper motor
Material:	aluminium
Limit switches:	mechanical limit switches
Weight:	4.300 g
Surface:	anodic coating, black
Certification:	DIN EN ISO 9001 : 2000
Packaging type:	protective polyurethane foam
Packaging size / weight:	66 x 56 x 36 cm / 10 kg

Order Information

Part No.: 31-24-430-0000, with 1 mm lead screw pitch
Part No.: 32-24-431-0000, with 2 mm lead screw pitch

Features

- for material and industrial applications
- exchangeable insert frames for different kinds of applications
- motor cable connection back left

Accessories

Stage insert for slide 76 x 25 mm
(included in delivery)
Part No.: 00-29-411-8010

Stage insert for 4 slides
Part No.: 00-29-411-8220

Stage insert for micro titer plates
Part No.: 00-29-411-8020

Universal stage insert
Part No.: 00-29-411-8150

* Specifications valid with Märzhäuser stage controller only

Specifications subject to change without notice.

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▶ **Scanning Stage SCAN IM 120 x 80** for Olympus IX51 / IX71 / IX81

Travel range:	120 x 80 mm
Repeatability:	< 1 µm (bi-directional, measured according to VDI / DGQ 3441)
Accuracy:	+/- 3 µm (measured according to VDI / DGQ 3441)
Resolution:	0,01 µm (smallest step size)
Orthogonality:	< 10 arc sec
Motor:	2-phase stepper motor
Max. travel speed:	60 mm/s, with 1 mm ball screw pitch 120 mm/s, with 2 mm ball screw pitch
Limit switches:	mechanical limit switches
Material:	aluminium
Surface:	anodic coating, black laquered
Weight:	4,700 g

Order Information

Order No.: 00-24-565-0000, 1 mm ball screw pitch
 Order No.: 00-24-566-0000, 2 mm ball screw pitch

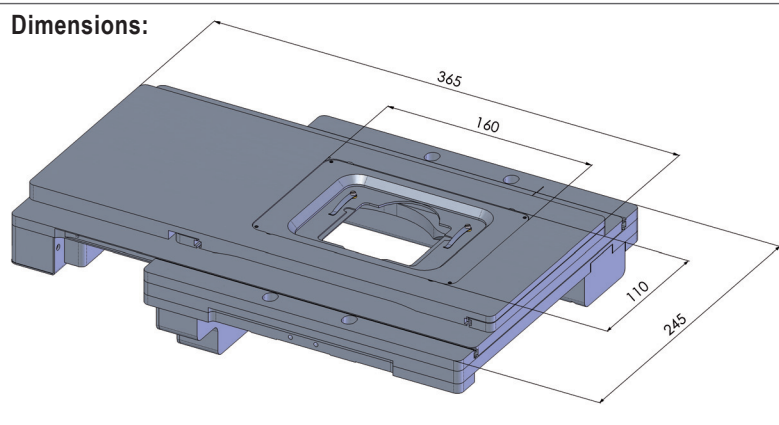
Product Features

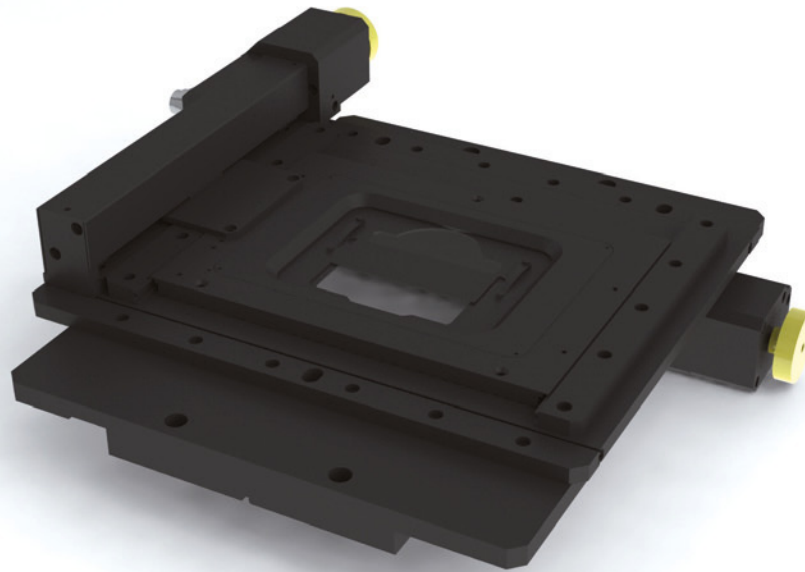
- ▶ flat, ergonomic design with rounded corners
- ▶ closed surface without any objectable edges for easy cleaning and disinfection
- ▶ stationary connecting cables between controller and scanning stage
- ▶ compatible with Olympus ZDC and (F)RFACA
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller!
- ▶ The integrated electronic stage identification device ETS enables automatic identification of the scanning stage as well as the parametrization of the controller.

Accessories

Stage insert for 1 slide 3" x 1"
 (included in delivery)
 Order No.: 00-29-411-8010

For further accessories please refer to:
www.marzhauser.com





► **Scanning Stage SCAN IM 120 x 100** for Nikon Eclipse TE 2000

Travel range:	120 x 100 mm
Repeatability:	< 1 µm (bi-directional, measured according to VDI / DGQ 3441)
Accuracy:	+/- 3 µm (measured according to VDI / DGQ 3441)
Resolution:	0,01 µm (smallest step size)
Orthogonality:	< 10 arc sec
Motor:	2-phase stepper motor
Max. travel speed:	60 mm/s, with 1 mm ball screw pitch 120 mm/s, with 2 mm ball screw pitch
Limit switches:	adjustable limit switches
Material:	aluminium
Surface:	anodic coating, black laquered
Weight:	3,800 g

Order Information

Order No.: 00-24-437-0000, 1 mm ball screw pitch
 Order No.: 00-24-438-0000, 2 mm ball screw pitch

Product Features

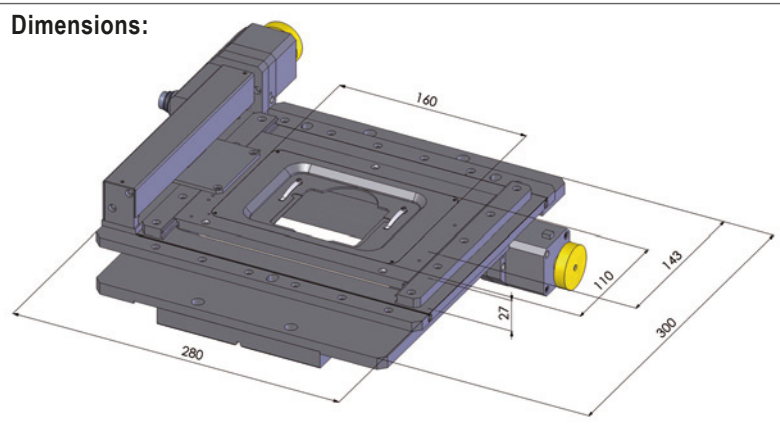
- 5 years guarantee, if the scanning stage is operated in the system with the Märzhäuser TANGO controller!
- The integrated electronic stage identification device ETS enables automatic identification of the scanning stage as well as the parametrization of the controller.

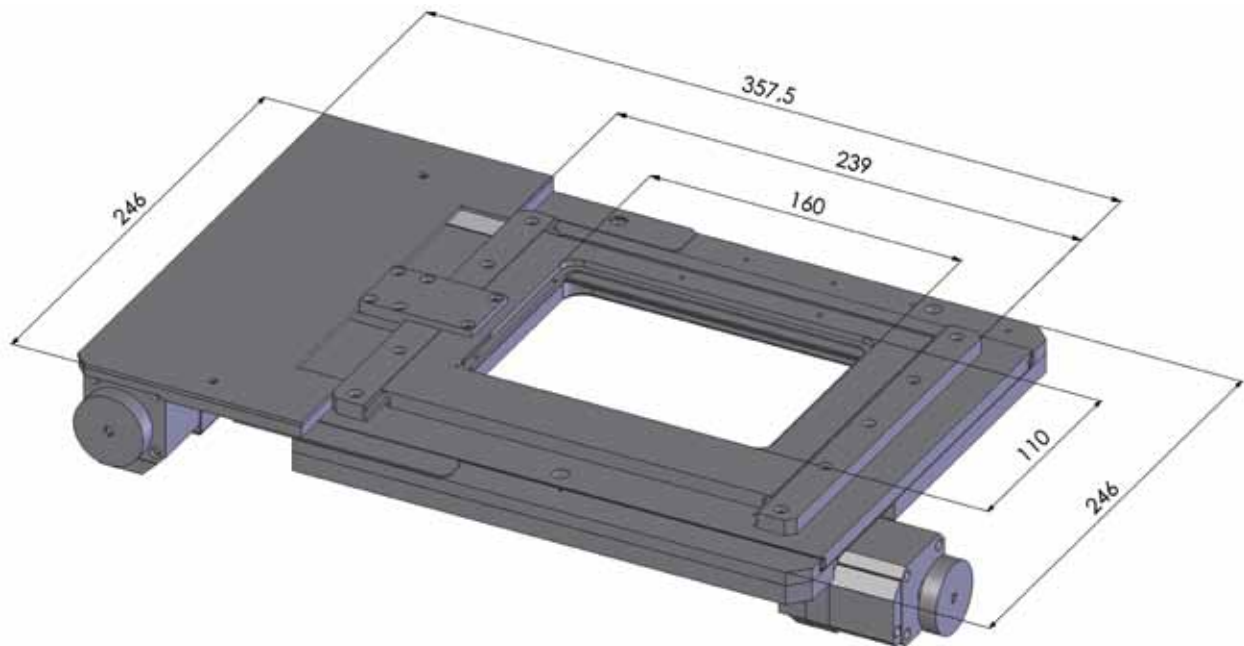
Accessories

Stage insert for 1 slide 76 x 26 mm
 (included in delivery)
 Order No.: 00-29-411-8010

For further accessories please refer to:
www.marzhauser.com

Dimensions:





▶ **Scanning Stage SCAN IM 127 x 83** for DMI 3000 - 6000

Specifications

Travel range:	max. 127 x 83 mm
Repeatability:	< 1 µm* measured according to VDI / DGQ 3441
Accuracy:	+/- 3 µm* measured according to VDI / DGQ 3441
Orthogonality:	< 40 sec., typically < 15 - 20 sec.
Resolution:	< 0,05 µm* (smallest step size)
Max. travel speed:	60 mm/s*, with 1 mm lead screw pitch 120 mm/s*, with 2 mm lead screw pitch
Motor:	2-phase stepper motor
Material:	aluminium
Limit switches:	mechanical limit switches
Weight:	4.300 g
Surface:	anodic coating, black
Certification:	DIN EN ISO 9001 : 2000
Packaging type:	protective polyurethane foam
Packaging size / weight:	66 x 56 x 36 cm / 10 kg

Order Information

Part No.: 00-24-430-0000, with 1 mm lead screw pitch
Part No.: 00-24-431-0000, with 2 mm lead screw pitch

Features

- ▶ for life science applications
- ▶ exchangeable insert frames for different kinds of applications
- ▶ motor cable connection back left

Accessories

Stage insert for slide 76 x 25 mm
(included in delivery)
Part No.: 00-29-411-8010

Stage insert for 4 slides
Part No.: 00-29-411-8220

Stage insert for micro titer plates
Part No.: 00-29-411-8020

Universal stage insert
Part No.: 00-29-411-8150

* Specifications valid with Märzhäuser stage controller only

Specifications subject to change without notice.

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▶ Scanning Stage SCAN IM 130 x 85 for Nikon Eclipse Ti

Travel range:	130 x 85 mm
Repeatability:	< 1 μm (bi-directional, measured according to VDI / DGQ 3441)
Accuracy:	+/- 3 μm (measured according to VDI / DGQ 3441)
Resolution:	0,01 μm (smallest step size)
Orthogonality:	< 10 arc sec
Motor:	2-phase stepper motor
Max. travel speed:	120 mm/s, with 2 mm ball screw pitch
Limit switches:	hall sensors
Material:	aluminium
Surface:	anodic coating, black lacquered
Weight:	6.8 kg

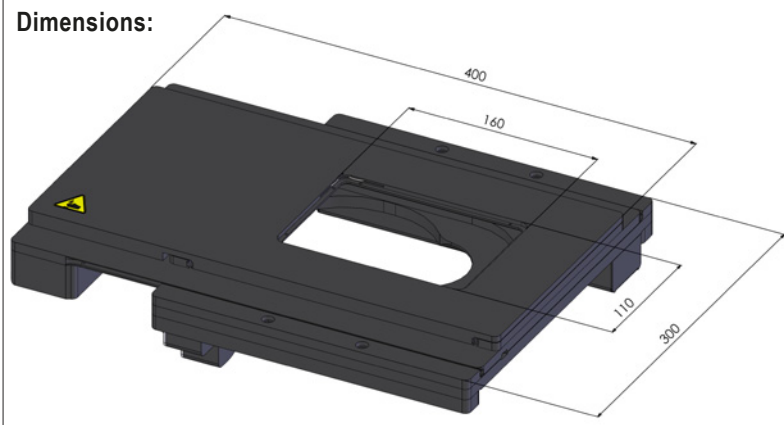
Order Information

Order No.: 00-24-625-0000, 2 mm ball screw pitch

Product Features

- ▶ flat, ergonomic design with rounded corners
- ▶ closed surface without any objectable edges for easy cleaning and disinfection
- ▶ stationary connecting cables between controller and scanning stage
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller!
- ▶ The integrated electronic stage identification device ETS enables automatic identification of the scanning stage as well as the parametrization of the controller.

Dimensions:



Accessories

For accessories please refer to:
www.marzhauser.com



Scanning Stage SCAN IM 130 × 100

for Zeiss Axiovert 35 / 100 / 135 / 135 M / 200 M / 200 MAT / 200 M MAT

Specifications

Travel range	max. 130 × 100 mm
Travel speed	max. 60 mm/s (with 1 mm ball screw pitch)
Repeatability	< 1 µm ¹ (bi-directional)
Accuracy	±3 µm ¹
Resolution	0.01 µm (smallest step size)
Orthogonality	< 10 arcsec
Motor type	2-phase stepper motor
Limit switches	mechanical limit switches
Material / surface	aluminium / anodic coating, black lacquered
Weight	approx. 4.3 kg

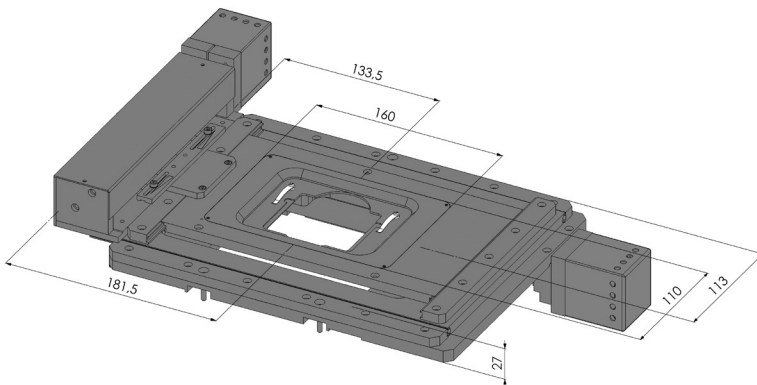
Order Information

Order No.: 00-24-546-0000
 (1 mm ball screw pitch)

Product Features

- ▶ exchangeable stage inserts for different kinds of applications
- ▶ continuously adjustable travel range limitation for individual adjustment of travel range for different applications
- ▶ integrated electronic stage identification device ETS for automatic identification of the scanning stage and parametrization of the controller
- ▶ **5 years guarantee**, if the scanning stage is operated in the system with the Märzhäuser TANGO controller

Dimensions

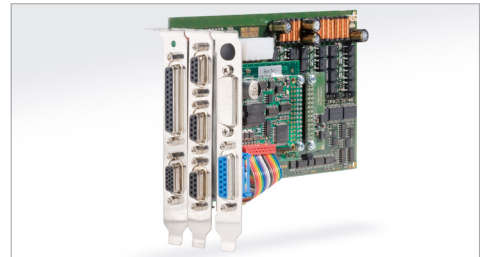
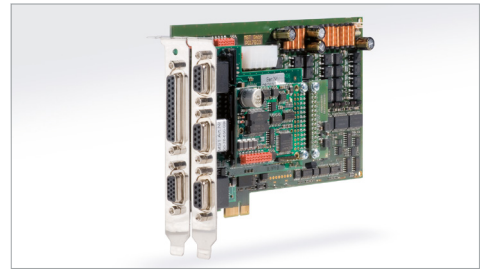
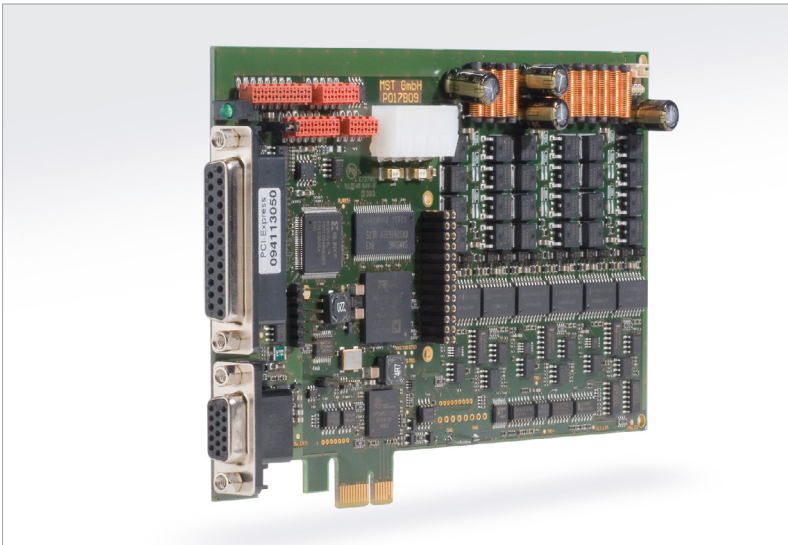


Accessories

Stage insert for 1 slide 3" × 1"
 (included in delivery)
 Order No.: 00-29-411-8010

Piezo Z-stage
 Order No.: 00-55-550-0800

For various stage inserts with dimensions 160 × 110 × 8 mm and further accessories please visit: www.marzhauser.com



TANGO PCI-E

The High Resolution Stepper Motor Controller as a PCI-E Slot Card.

Product Features

TANGO PCI-E is the slot card version of the TANGO product family and can be integrated via PCI-Express bus in your PC system. It enables control of up to 4 axes. In cascaded operation up to 16 axes can be controlled.

The positioning is done through programming or via manual operating device. Digital and analog inputs/outputs provide numerous additional functions.

Future-proof PC integration
 operation via PCI-Express bus

Positioning within sub- μm range
 position resolution of 819,200 micro-steps/revolution

Maximum torque, even at high speed
 48 V motor voltage, up to 4,200 revolutions/min, phase currents of up to 2.5 A

Energy-efficient ecological design
 lower power dissipation, resulting in decreased caloric development and lower power consumption, no fan required

Sensitive manual operation
 via Joystick or ERGODRIVE

„Microsoft Authenticode Certificated Driver“
 compatible to all Windows operating systems including Windows 10 (32/64 bit)

Intuitive operating surface and DLL support
 enables easy integration and command input

Easy switch within the TANGO product family
 software compatible with TANGO PCI-S and TANGO Desktop

Order Information

TANGO 1 PCI-E ¹	00-76-150-0811
TANGO 2 PCI-E ²	00-76-150-0812
TANGO 3 PCI-E ³	00-76-150-0813
TANGO 4 PCI-E ⁴	00-76-150-0814

Accessories

1-Axis Joystick	00-76-100-0823
2-Axes Joystick	00-76-200-0820
3-Axes Joystick	00-76-300-0820
3-Axes Joystick ⁵	00-76-300-0821
4-Axes Joystick ⁵	00-76-400-0820

ERGODRIVE 2 ²	00-27-322-1600
ERGODRIVE 3 ³	00-27-322-1500

Motor cable Z-axis ⁶	00-76-102-9803
Motor cables XY-axes ⁶	00-76-202-0808
Motor cables XYZ-axes ⁶	00-76-302-0809
Motor cable 4 th axis ⁶	00-76-402-0810

¹ 1 axis

² 2 axes

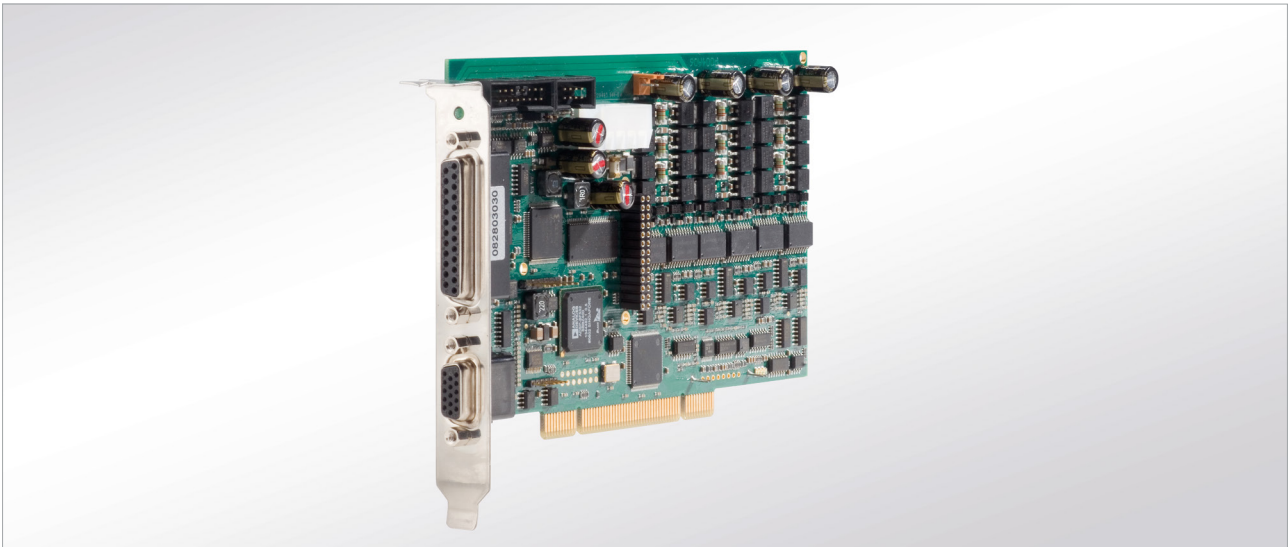
³ 3 axes

⁴ 4 axes

⁵ with multi-function wheel

⁶ cable length: 2 m

Motor Output Stage	
Amount of axes	1 to 4
Supported motor types	stepper motor 2 or 4 phases, individual adaption to step angle of the motor
Step resolution	4,096 micro-steps/macro-step, 819,200 micro-steps/revolution (with 200-step motor)
Max. phase current	axis 1 to 3: 1.25 A or 2.5 A axis 4: 1.0 A
Motor current setting	motor current adjustment control from 0.03 A to max. phase current, adjustable via software, motor phase correction, short-circuit-proof outputs
Motor current reduction during standstill	0...100 % of motor current setting
Supply	100...240 V AC optional: external 24 V or 48 V power supply
Positioning	
Positioning modes	positioning of distance and vectors, track function, positioning by setting speed and direction, simultaneous positioning of vectors and single axes, manual positioning, override position, endless rotation
Speed range	0.000001...70 rps (each axis individually)
Acceleration	0.0001...20 m/s ² , linear or sin ² (each axis individually)
Travel range	distance: max. ±2.6 m rotation: endless
Programming	ASCII command language (> 160 commands)
Processing speed	up to 250 vectors/s (depending on PC model and software)
Processor system	DSP, 396 MHz, 16 MByte SDRAM, 8 MBit Flash Memory, 256 KBit EPROM
Interfaces and Functions	
Measuring systems	connection of measuring systems for length and angles for high-precision positioning in closed-loop operation (axes XYZ), supports all customary optical systems as well as Märzhäuser MR measuring system
Encoder interface (optional)	1Vpp, MR/analog 5Vpp, TTL (RS-422) interpolation of analog encoder signal up to factor 51,400 (14 Bit) TTL quadrature with an input frequency of up to 30 MHz
Operating devices	Joystick, ERGODRIVE (automatic identification)
Further inputs/outputs (AUX I/O, optional)	analog input 0–5 V, analog outputs 0–10 V, TTL I/O, TTL limit-switch inputs
Input/output functions	saves coordinates, emergency stop, safety shutdown of output stage, position-synchronous trigger outputs, output of analog voltage, limit-switch evaluation, closed-loop positioning
Miscellaneous	on-board measuring of temperature, position correction with and without measuring system, reading of / writing on electronic type label (ETS), fitted in positioning mechanics, for customer-related data or for setting of parameters
Ambient Conditions	
Operating temperature	+5 °C...+70 °C
Cooling	normal convection, no fan required
Measurements (L × W)	167.64 × 106.68 mm (without slot bracket/plugs)
Weight	approx. 0.2 kg (without slot bracket/plugs)



TANGO PCI-S

The High Resolution Stepper Motor Controller as a PCI-S Slot Card.

Product Features

TANGO PCI-S is the slot card version of the TANGO product family and can be integrated via PCI bus in your PC system. It enables control of up to 4 axes. In cascaded operation up to 16 axes can be controlled.

The positioning is done through programming or via manual operating device. Digital and analog inputs/outputs provide numerous additional functions.

Easy PC integration

operation via PCI bus, fast data transfer and simple installation with virtual com port driver.

Positioning within sub- μm range

position resolution of 819,200 micro-steps/revolution

Maximum torque, even at high speed

48 V motor voltage, up to 4,200 revolutions/min, phase currents of up to 2.5 A

Energy-efficient ecological design

lower power dissipation, resulting in decreased caloric development and lower power consumption, no fan required

Sensitive manual operation

via Joystick or ERGODRIVE

„Microsoft Authenticode Certificated Driver“

compatible to all Windows operating systems including Windows 10 (32/64 bit)

Intuitive operating surface and DLL support

enables easy integration and command input

Order Information

TANGO 1 PCI-S ¹	00-76-150-2801
TANGO 2 PCI-S ²	00-76-150-2802
TANGO 3 PCI-S ³	00-76-150-2803
TANGO 4 PCI-S ⁴	00-76-150-2804

Accessories

1-Axis Joystick	00-76-100-0823
2-Axes Joystick	00-76-200-0820
3-Axes Joystick	00-76-300-0820
3-Axes Joystick ⁵	00-76-300-0821
4-Axes Joystick ⁵	00-76-400-0820

ERGODRIVE 2 ²	00-27-322-1600
ERGODRIVE 3 ³	00-27-322-1500

Motor cable Z-axis ⁶	00-76-102-9803
Motor cables XY-axes ⁶	00-76-202-0808
Motor cables XYZ-axes ⁶	00-76-302-0809
Motor cable 4 th axis ⁶	00-76-402-0810

¹ 1 axis

² 2 axes

³ 3 axes

⁴ 4 axes

⁵ with multi-function wheel

⁶ cable length: 2 m

Motor Output Stage	
Amount of axes	1 to 4
Supported motor types	stepper motor 2 or 4 phases, individual adaption to step angle of the motor
Step resolution	4,096 micro-steps/macro-step, 819,200 micro-steps/revolution (with 200-step motor)
Max. phase current	axis 1 to 3: 1.25 A or 2.5 A axis 4: 1.0 A
Motor current setting	motor current adjustment control from 0.03 A to max. phase current, adjustable via software, motor phase correction, short-circuit-proof outputs
Motor current reduction during standstill	0...100 % of motor current setting
Supply	100...240 V AC optional: external 24 V or 48 V power supply
Positioning	
Positioning modes	positioning of distance and vectors, track function, positioning by setting speed and direction, simultaneous positioning of vectors and single axes, manual positioning, override position
Speed range	0.000001...70 rps (each axis individually)
Acceleration	0.0001...20 m/s ² , linear or sin ² (each axis individually)
Travel range	distance: max. ±2.6 m
Programming	ASCII command language (> 160 commands)
Processing speed	up to 250 vectors/s (depending on PC model and software)
Processor system	DSP, 396 MHz, 16 MByte SDRAM, 4 MBit Flash Memory, 256 KBit EPROM
Interfaces and Functions	
Measuring systems	connection of measuring systems for length and angles for high-precision positioning in closed-loop operation (axes XYZ), supports all customary optical systems as well as Märzhäuser MR measuring system
Encoder interface (optional)	1Vpp, MR/analog 5Vpp, TTL (RS-422) interpolation of analog encoder signal up to factor 51,400 (14 Bit) TTL quadrature with an input frequency of up to 30 MHz
Operating devices	Joystick, ERGODRIVE (automatic identification)
Further inputs/outputs (AUX I/O, optional)	analog input 0–5 V, analog outputs 0–10 V, TTL I/O, TTL limit-switch inputs
Input/output functions	saves coordinates, emergency stop, safety shutdown of output stage, position-synchronous trigger outputs, output of analog voltage, limit-switch evaluation, closed-loop positioning
Miscellaneous	position correction with and without measuring system, reading of / writing on electronic type label (ETS), fitted in positioning mechanics, for customer-related data or for setting of parameters
Ambient Conditions	
Operating temperature	+5 °C...+70 °C
Cooling	normal convection, no fan required
Measurements (L × W)	167.64 × 106.68 mm (without slot bracket/plugs)
Weight	approx. 0.2 kg (without slot bracket/plugs)



TANGO Desktop

The High Resolution Stepper Motor Controller Inside of a Desktop Housing.

Product Features

TANGO Desktop is the ready-to-be-plugged-in desktop version of the TANGO product family. The modular design allows for a tailored configuration of the controller. In the maximum configuration, up to four stepper motors can be connected.

The positioning is done through programming or via manual operating device. Digital and analogue inputs/outputs provide numerous additional functions.

Positioning within sub- μ range

position resolution of 819,200 micro-steps/revolution

Maximum torque, even at high speed

48 V motor voltage, up to 4,200 revolutions/min,
 phase currents of up to 2.5 A

Energy-efficient ecological design

lower power dissipation, resulting in decreased calorific development and lower power consumption, no fan required

Sensitive manual operation

via Joystick, ERGODRIVE or Trackball

„Microsoft Authenticode Certificated Driver“

compatible to all Windows operating systems including Windows 10 (32/64 bit)

Intuitive operating surface and DLL support

enables easy integration and command input

Easy switch within the TANGO product family

software compatible with TANGO PCI-E and TANGO PCI-S

Order Information

TANGO 1 Desktop ¹	00-76-150-1801
TANGO 2 Desktop ²	00-76-150-1802
TANGO 3 Desktop ³	00-76-150-1803
TANGO 4 Desktop ⁴	00-76-150-1804

Accessories

1-Axis Joystick	00-76-100-0823
2-Axes Joystick	00-76-200-0820
3-Axes Joystick	00-76-300-0820
3-Axes Joystick ⁵	00-76-300-0821
4-Axes Joystick ⁵	00-76-400-0820

ERGODRIVE 2 ²	00-27-322-1600
ERGODRIVE 3 ³	00-27-322-1500

Trackball	00-76-550-8800
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Motor cable Z-axis ⁶	00-76-102-9803
Motor cables XY-axes ⁶	00-76-202-0808
Motor cables XYZ-axes ⁶	00-76-302-0809
Motor cable 4 th axis ⁶	00-76-402-0810

¹ 1 axis

² 2 axes

³ 3 axes

⁴ 4 axes

⁵ with multi-function wheel

⁶ cable length: 2 m

Motor Output Stage	
Amount of axes	1 to 4
Supported motor types	stepper motor 2 or 4 phases, individual adaption to step angle of the motor
Step resolution	4,096 micro-steps/macro-step, 819,200 micro-steps/revolution (with 200-step motor)
Max. phase current	axis 1 to 3: 1.25 A or 2.5 A axis 4: 1.0 A
Motor current setting	motor current adjustment control from 0.03 A to max. phase current, adjustable via software, motor phase correction, short-circuit-proof outputs
Motor current reduction during standstill	0...100 % of motor current setting
Supply	100...240 V AC standard: int. 48 V power supply optional: int. 24 V power supply, ext. 24 V or 48 V power supply
Positioning	
Positioning modes	positioning of distance and vectors, track function, positioning by setting speed and direction, simultaneous positioning of vectors and single axes, manual positioning, override position, endless rotation
Speed range	0.000001...70 rps (each axis individually)
Acceleration	0.0001...20 m/s ² , linear or sin ² (each axis individually)
Travel range	distance: max. ±2.6 m rotation: endless
Programming	ASCII command language (> 160 commands)
Processing speed	up to 250 vectors/s (depending on PC model and software)
Processor system	DSP, 396 MHz, 16 MByte SDRAM, 8 MBit Flash Memory, 256 KBit EPROM
Interfaces and Functions	
Communication	RS-232 (up to 115,200 baud) and USB 2.0, CAN-Bus prepared
Measuring systems	connection of measuring systems for length and angles for high-precision positioning in closed-loop operation (axes XYZ), supports all customary optical systems as well as Märzhäuser MR measuring system
Encoder interface (optional)	1Vpp, MR/analog 5Vpp, TTL (RS-422) interpolation of analog encoder signal up to factor 51,400 (14 Bit) TTL quadrature with an input frequency of up to 30 MHz
Operating devices	Joystick, ERGODRIVE, Trackball (automatic identification)
Further inputs/outputs (AUX I/O, optional)	analog input 0–5 V, analog outputs 0–10 V, TTL I/O, TTL limit-switch inputs
Input/output functions	saves coordinates, emergency stop, safety shutdown of output stage, position-synchronous trigger outputs, output of analog voltage, limit-switch evaluation, closed-loop positioning
Miscellaneous	on-board measuring of temperature, position correction with and without measuring system, reading of / writing on electronic type label (ETS), fitted in positioning mechanics, for customer-related data or for setting of parameters
Ambient Conditions	
Operating temperature	+5 °C...+45 °C
Cooling	convection, no fan required
Measurements (L x W x H)	238 x 103.5 x 160 mm (without cables/plugs)
Weight	approx. 2.5 kg (without cables/plugs)



ERGODRIVE Operating Device for Motorized Microscope- and Measuring Stages

Specifications

Number of axes	ERGODRIVE 2: 2 axes (XY) ERGODRIVE 3: 3 axes (XYZ)
Resolution XY	100.000 steps/revolution
Resolution Z (ERGODRIVE 3 only)	480 steps/revolution
Supply voltage	+5 V
Current consumption	70 mA
Interface	HD D-sub 15-pin plug
Material	aluminium
Surface	anodic coating, black lacquered
Weight	ERGODRIVE 2: approx. 1.5 kg ERGODRIVE 3: approx. 1.6 kg

Order Information

ERGODRIVE 2, 2-axes operating device
 Order No.: 00-27-322-1600

ERGODRIVE 3, 3-axes operating device
 Order No.: 00-27-322-1500

Product Features

- ▶ 2- resp. 3-axes operating device for all motorized microscope- and measuring stages in connection with TANGO controller
- ▶ high-resolution, proportional positioning
- ▶ fast stage movement across the entire travel range with sensitive positioning in sub- μ area at the same time
- ▶ ergonomical adjustment for friction and height (coaxial drive telescopic)
- ▶ SnapShot function
- ▶ velocity switching for XY, respectively Z
- ▶ "Plug and play your microscope": automatic identification by connection

Accessories

Operating device ERGODRIVE is compatible with all TANGO controllers.

Dimensions

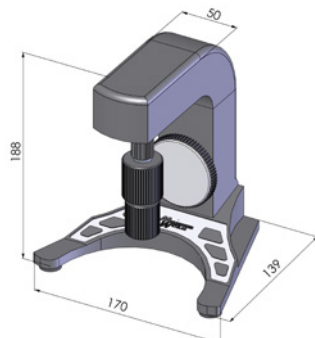


Fig.: ERGODRIVE 3



4-Axis Joystick with Multi-Function Wheel for TANGO Controllers

Specifications

Number of axes	4 (XYZA)
Interface	15-pin HD D-Sub plug connection to TANGO HDI
Material/surface	control panel: membrane keyboard housing: ABS-plastic with haptic coating housing bottom: stainless steel
Dimensions	229 x 139 x 96 mm (L x W x H)
Weight	approx. 1.0 kg

Order Information

4-axis joystick
 with Multi-Function Wheel
 Order No.: 00-76-400-0820

Product Features

- ▶ sensitive, manual positioning
- ▶ side-mounted multi-function wheel allows ergonomic operation
- ▶ various configuration options
- ▶ assignment of the multi-function wheel to any axis
- ▶ free and precise programming of travel speed
- ▶ control of the LED illumination LED 100 with multi-function wheel possible
- ▶ 4 freely programmable function keys (e. g. for position capture, velocity select etc.)
- ▶ membrane keyboard with high durability
- ▶ soft touch and insensitive haptic coating on the side surfaces
- ▶ easy cleaning

Dimensions

