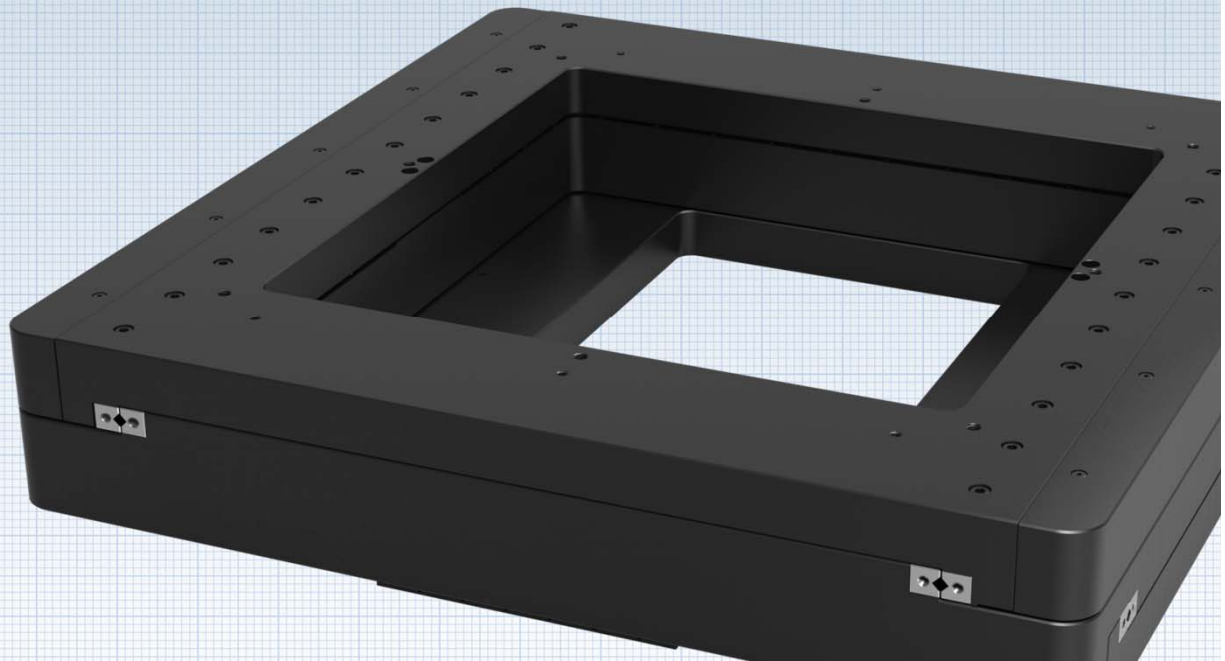
Steinmeyer Mechatronik

Steinmeyer Mechatronik GmbH

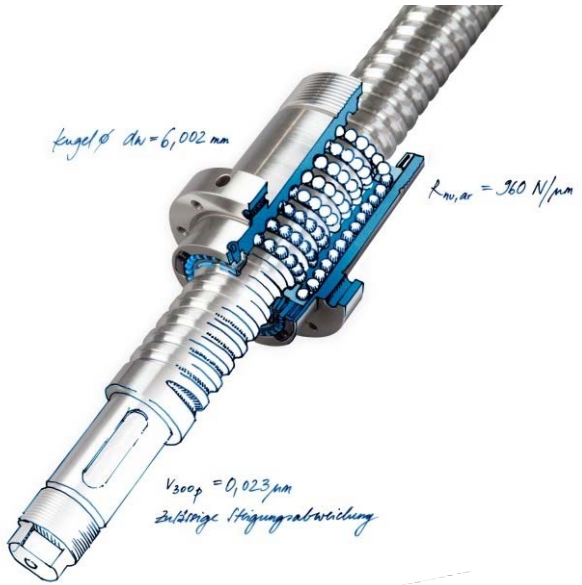
New Systems



Version 01/2018

The Steinmeyer Group

- Three Competence Centers. Worldwide over 650 employees.
- High-precision ball screws for industrial applications and aerospace
- High-precision positioning solutions
- High-precision metrology
- Facilities in Germany and the USA



Steinmeyer Mechatronik GmbH

- Competence center for positioning solutions and mechatronic systems
- 100 highly motivated and special skilled employees in Dresden
- Over 140 years experience in mechanical design and production
- Innovative designs for a variety of applications
- Three shift operation in production

What are we offering?

- **Stages, Assemblies, Systems**

  Catalogue Stages, Custom Designs

- **OEM Design and Manufacturing**

  We design, manufacture and test mechatronic assemblies for a wide variety of applications.

- **All-in-one Process**

  We carry out the whole design and production process under one roof in our factory in Dresden, Germany.

Micro Stage MT105-50/20-NM/PM

Version with one Motor

Version with two Motors

Application: universal stage for z-stroke
Features: also non-magnetic version available

Benefit

- extremely high resolution of Nanometer
- high acceleration and speed

Technical Data

- **Stroke:** 20mm (2 motors), 50mm, 100mm
- **Repeatability:** ± 0,05µm
- **Load:** 5 kg horizontal / 0,5kg vertikal, 1kg vertikal (2 motors)
- **Positioning Speed:** 5mm/s PM, 50mm/s NM
- **Maximum Speed:** 6mm/s PM, 100mm/s NM

Components

- **Motor:** Piezo Motor up to 5mm/s Nanomotion
- **Feedback:** Resolution 5nm
- **Linear Guide:** Cross Roller (optionally Stainless Steel or Ceramics)
- **Controller:** Galil

Micro Stage MT105XL-50/20-NM/PM

Version with one Motor

Version with two Motors

Application: universal stage for z-stroke
Features: also non-magnetic version available

Benefit

- extremely high resolution with Nanometer
- high acceleration and speed

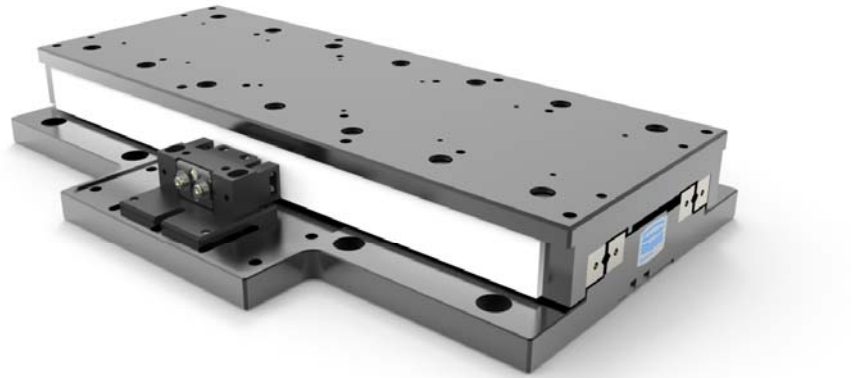
Technical Data

- **Stroke:** 20mm (2 motors), 50mm, 100mm
- **Repeatability:** ± 0,05µm
- **Load:** 10 kg horizontal / 1,5kg vertikal, 3kg vertikal (2 motors)
- **Positioning Speed:** 5mm/s PM, 50mm/s NM
- **Maximum Speed:** 6mm/s PM, 100mm/s NM

Components

- **Motor:** Piezo Motor up to 5mm/s Nanomotion
- **Feedback:** Resolution 5nm
- **Linear Guide:** Cross Roller (optionally Stainless Steel or Ceramics)
- **Controller:** Galil

MT170-100-NM/PM and MT170-100-XL-NM/PM



Version with one Motor PM

Version with two Motors NM

Application: stage for large dimension loads
Features: also non-magnetic version available

Benefit

- extremely high resolution of Nanometer
- high acceleration and speed

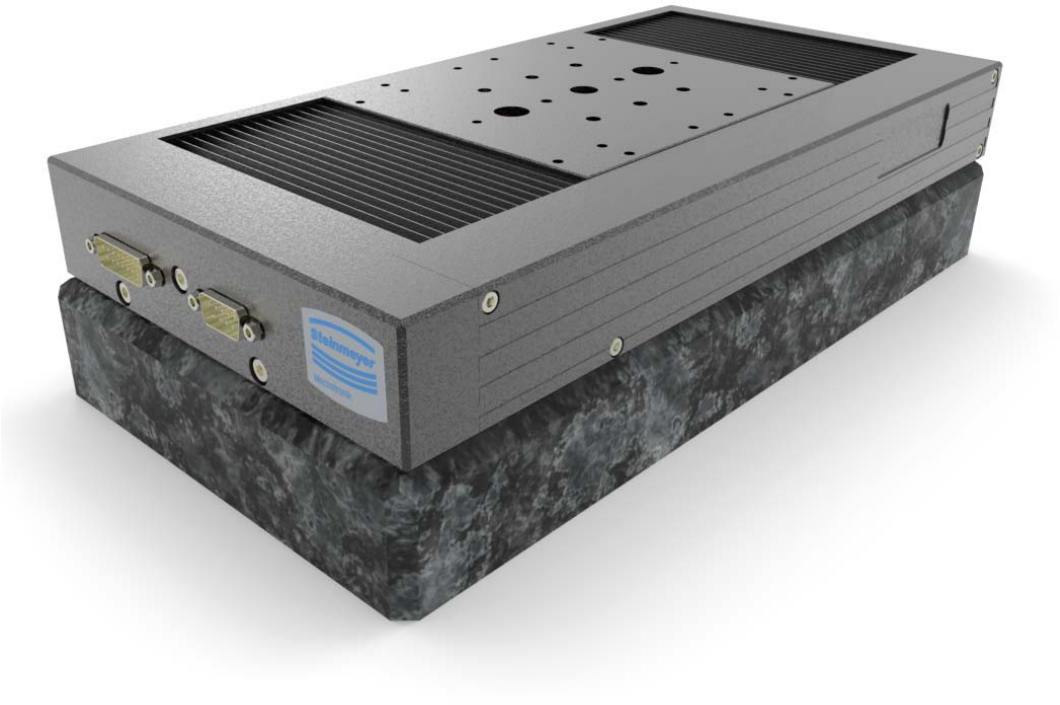
Technical Data

- **Stroke:** 100mm
- **Repeatability:** ± 0,05µm
- **Load:** 10kg horizontal / 1,5kg vertikal, 3kg vertikal (2 motors)
- **Positioning Speed:** 5mm/s PM, 50mm/s NM
- **Maximum Speed:** 6mm/s PM, 100mm/s NM

Components

- **Motor:** Piezo Motor up to 5mm/s Nanomotion
- **Feedback:** Resolution 5nm
- **Linear Guide:** Cross Roller (optionally Stainless Steel or Ceramics)
- **Controller:** Galil

Precision Stage PMT160G



Application: for highest demands in measuring equipment
Features: supported by granite base, optionally with aluminum base

Benefit

- superior straightness
- comparable to air bearings

Technical Data

- **Stroke:** 50mm, 100mm, 200mm
- **Repeatability:** ± 0,2µm
- **Load:** 4,5kg
- **Positioning Speed:** 2mm/s (DC-G), 25mm/s (AC)
- **Maximum Speed:** 5mm/s (DC-G), 50mm/s (AC)

Components

- **Motor:** Stepper Motor, DC-G, AC
- **Feedback:** Linear Incremental 100 nm … 5nm
- **Linear Guide:** Mini Rail or Cross Roller
- **Controller:** FMC, Galil

Precision Stage PLT100

Application: automation, sample positioning

Features: various lengths, very slim

Benefit

- compact, small
- powerful, robust

Technical Data

- **Stroke:** 50mm, 100mm, 200mm, 300mm, 400mm or 500 mm
- **Repeatability:** ± 2,5µm
- **Load:** 15kg
- **Positioning Speed:** 40mm/s SM, 130mm/s AC
- **Maximum Speed:** 80mm/s SM, 250mm/s AC

Components

- **Motor:** Stepper Motor, AC
- **Feedback:** Encoder, optionally Linear Incremental 100nm
- **Linear Guide:** Mini Rail
- **Controller**: FMC, Galil

Precision Stage PLT165G / 240G / 320G SM

Application: for highest demands in measuring equipment

Features: built on granite, also available on aluminum foam

Benefit

- straightness, similar to air bearings
- version with granite base is three times better than standard PLT

Technical Data

- **Stroke:** 100…500mm (PLT165),
  200…750mm (PLT240),
  300…1000mm (PLT320)
- **Repeatability:** ± 2µm R, ± 0,5µm L
- **Load:** 52kg (PLT165), 100kg (PLT240), 310kg (PLT320)
- **Positioning Speed:** 40mm/s
- **Maximum Speed:** 80mm/s

Components

- **Motor:** Stepper Motor, AC
- **Feedback:** Encoder, optionally linear incremental 100nm
- **Linear Guide:** Mini Rail
- **Controller:** Galil, ACS, KM

Precision Stage PLT165G / 240G / 320G AC

Application: for highest demands in measuring equipment

Features: built on granite, also available on aluminum foam

Benefit

- straightness, similar to air bearings
- version with granite base is three times better than standard PLT

Technical Data

- **Stroke:** 100…500mm (PLT165),
  200…750mm (PLT240),
  300…1000mm (PLT320)
- **Repeatability:** ± 2µm R, ± 0,5µm L
- **Load:** 52kg (PLT165), 100kg (PLT240), 310kg (PLT320)
- **Positioning Speed:** 130mm/s
- **Maximum Speed:** 260mm/s

Components

- **Motor:** Stepper Motor, AC
- **Feedback:** Encoder, optionally Linear Incremental 100 nm
- **Linear Guide:** Mini Rail
- **Controller:** Galil, ACS, KM

Precision Stage PLT165G / 240G / 320G DLM

Application: for highest demands in measuring equipment

Features: built on granite, also available on aluminum foam

Benefit

- straightness, similar to air bearings,
- version with granite base is three times better than standard PLT

Technical Data

- **Stroke:** 100…500mm (PLT165),
  200…750mm (PLT240),
  300…1000mm (PLT320)
- **Repeatability:** ± 2µm R, ± 0,5µm L
- **Load:** 52kg (PLT165), 100kg (PLT240), 310kg (PLT320)
- **Positioning Speed:** 1200mm/s
- **Maximum Speed:** 2400mm/s

Components

- **Motor:** DLM
- **Feedback:** Encoder, optionally Linear Incremental 100nm
- **Linear Guide:** Mini Rail
- **Controller:** Galil, ACS, KM

Linear Stage LT250 (Optionally with Air Bearings)

Application: economic measuring stage or inspection table

Features: also available with air bearings (parameters 10 times better)

Benefit

- XY-Base for MP200-3
- highest stability
- shock resistant, very robust

Technical Data

- **Stroke:** 100mm x 100mm
- **Repeatability:** ± 2µm
- **Load:** 8,3kg
- **Positioning Speed:** 20mm/s
- **Maximum Speed:** 40mm/s

Components

- **Motor:** Stepper Motor
- **Feedback:** Linear Incremental 100nm
- **Linear Guide:** Slide Guide or Air Bearing
- **Controller:** FMC, Galil, M-Drive

XY-Stage KLT250 (Optionally with Air Bearings)

Application: economic measuring stage or inspection table

Features: also available with air bearings (parameters 10 times better)

Benefit

- XY-Base for MP200-3
- highest stability
- shock resistant, very robust

Technical Data

- **Stroke:** 100mm x 100mm
- **Repeatability:** ± 2µm
- **Load:** 8,3kg
- **Positioning Speed:** 20mm/s
- **Maximum Speed:** 40mm/s

Components

- **Motor:** Stepper Motor
- **Feedback:** Linear Incremental 100nm
- **Linear Guide:** Slide Guide or Air Bearing
- **Controller:** FMC, Galil, M-Drive

KT105-50-NM/PM / KT180-100-NM/PM

Application: vacuum-xy-stage
Features: extra stability

Benefit

- fast and high resolution
- improved parameters

Technical Data

- Stroke: 50mm, 100mm
- Repeatability: ± 0,4µm NM, ± 0,1µm PM
- Load: dry lube ca. 1kg, liquid lube ca. 5kg horizontally
- Velocity: 5mm/s PM or 100mm/s NM

Components

- Motor: Piezo Motor, Nanomotion
- Feedback: Linear 1nm...100nm
- Guide: Cross Roller Stainless Steel, Hybrid, optionally Ceramics
- Controller: Galil

XY-Stage KT326-manual

Application: microscopy stage

Features: light weight, large stroke, quick release interface

Benefit

- simple design
- robust and compact

Technical Data

- **Stroke:** 200mm x 200mm
- **Repeatability:** ± 3µm
- **Load:** 7,5kg

Components

- **Motor:** Stepper Motor or manual
- **Linear Guide:** Mini Rail
- **Controller:** FMC, Galil, MDrive

XY-Stage KT326-SM

Application: microscopy stage

Features: light weight, large stroke, quick release interface

Benefit

- simple design
- robust and compact

Technical Data

- **Stroke:** 200mm x 200mm
- **Repeatability:** ± 3µm
- **Load:** 7,5kg
- **Positioning Speed:** 20mm/s
- **Maximum Speed:** 40mm/s

Components

- **Motor:** Stepper Motor or manual
- **Linear Guide:** Mini Rail
- **Controller:** FMC, Galil, MDrive

Hardness Test Stage LHT500

Application: hardness testing

Features: load goes directly into linear guides

Benefit

- robust
- for high centrally balanced loads

Technical Data

- **Stroke:** 50mm x 100mm, 88mm x 200mm, 100mm x 100mm,
- 150mm x 50mm,
  200mm x 88mm, 400mm x 150mm
- **Repeatability:** ± 3µm
- **Load:** 10kg und 500…3000N
- **Positioning Speed:** 25mm/s
- **Maximum Speed:** 50mm/s

Components

- **Motor:** Stepper Motor
- **Linear Guide:** Mini Rail
- **Controller:** FMC, Galil, M-Drive

XY-Stage KA100

Application: automation, instrumentation, assembly, handling

Features: minimal xy-stage design

Benefit

- very compact height
- large stroke on small foot print

Technical Data

- **Stroke:** 100mm x 100mm, 200mm x 200mm
- **Repeatability:** ± 3,5µm
- **Load:** 5kg
- **Positioning Speed:** 10mm/s
- **Maximum Speed:** 20mm/s

Components

- **Motor:** DC
- **Feedback:** Encoder
- **Linear Guide:** Mini Rail
- **Controller:** FMC, Galil

XY-Stage KA150

Application: automation, instrumentation, assembly, handling

Features: minimal xy-stage design

Benefit

- very compact height
- large stroke on small foot print

Technical Data

- **Stroke:** 100mm x 100mm, 200mm x 200mm, 300mm x 300mm
- **Repeatability:** ± 3µm
- **Load:** 20kg
- **Positioning Speed:** 100mm/s
- **Maximum Speed:** 200mm/s

Components

- **Motor:** DC
- **Feedback:** Encoder
- **Linear Guide:** Mini Rail
- **Controller:** FMC, Galil

XY-Stage KT470

Application: metrology, inspection of surfaces

Features: good for compensation

Benefit

- XY-stage with large stroke
- only linear errors, superior repeatability

Technical Data

- **Stroke:** 300mm x 300mm
- **Repeatability:** ± 1µm DC, ± 4 Stepper Motor
- **Load:** 22kg in Fz
- **Positioning Speed:** 50mm/s DC, 20mm/s SM
- **Maximum Speed:** 100mm/s DC, 40mm/s SM

Components

- **Motor:** Stepper Motor, DC
- **Feedback:** Linear Incremental 100nm
- **Linear Guide:** Cross Roller
- **Controller:** FMC 4808, Galil

XY-Stage KT510

Application: heavy duty measuring stage

Features: patented solution for distortion free interface

Benefit

- highly accurate
- insensitive to load change

Technical Data

- **Stroke:** 200mm x 200mm
- **Repeatability:** ± 0,3µm
- **Load:** 30kg
- **Positioning Speed:** 50mm/s
- **Maximum Speed:** 100mm/s

Components

- **Motor:** Stepper Motor, DC, (AC)
- **Feedback:** Linear Incremental 100nm
- **Linear Guide:** Circulating Roller Guides
- **Controller:** FMC, Galil, MDrive

XY-Stage KDT600

Application: measuring stage, inspection table

Features: second linear motor for enhanced dynamics

Benefit

- scanning stage, dynamic
- large aperture
- good for compensation

Technical Data

- **Stroke:** 349mm x 349mm
- **Repeatability:** ± 0,5µm
- **Load:** 22kg
- **Positioning Speed:** 250mm/s
- **Maximum Speed:** 500mm/s

Components

- **Motor:** Linear Motor, Option for second motor
- **Feedback:** Linear Incremental 100nm
- **Linear Guide:** Cross Roller
- **Controller:** Galil

XY-Stage KDT500

Application: measuring stage, inspection table

Features: second linear drive for enhanced dynamics

Benefit

- scanning stage, dynamic
- large aperture
- good for compensation

Technical Data

- **Stroke:** 349mm x 349mm
- **Repeatability:** ± 0,5µm
- **Load:** 22kg
- **Positioning Speed:** 250mm/s
- **Maximum Speed:** 500mm/s

Components

- **Motor:** Linear Motor, Option for second motor
- **Feedback:** Linear Incremental 100nm
- **Linear Guide:** Cross Roller
- **Controller:** Galil

XY-Stage KDT690-360 / KDT670-350

Application: measuring stage, inspection table

Features:, second linear drive, optional for enhanced dynamics

Benefit

- scanning stage, dynamic
- large aperture
- good for compensation

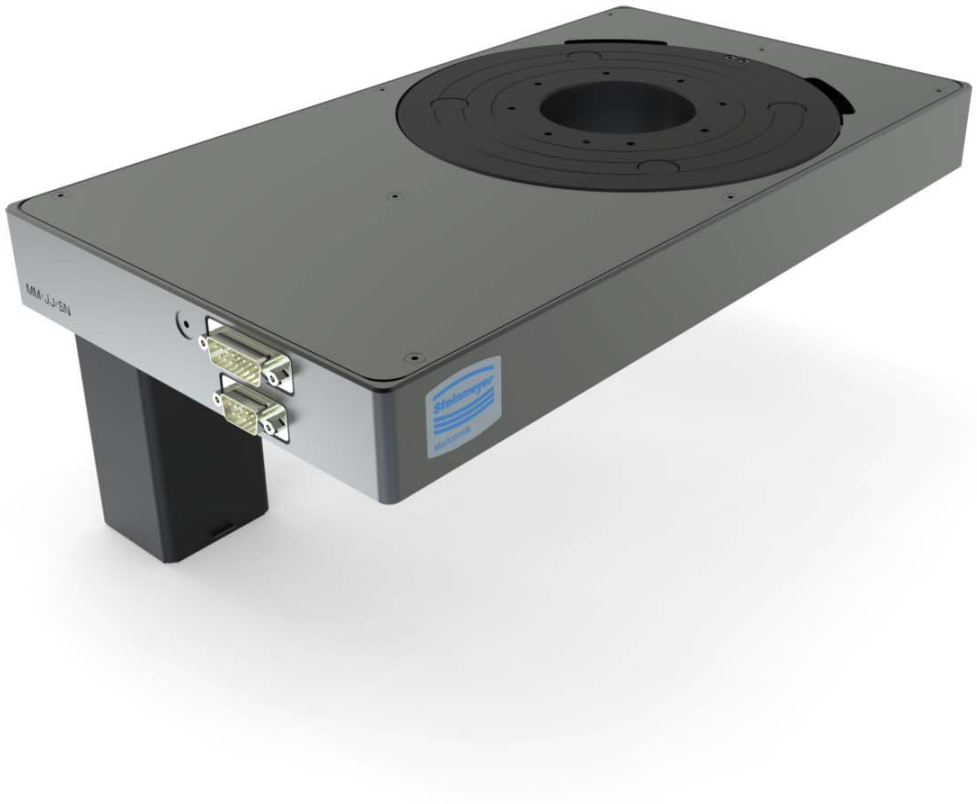
Technical Data

- **Stroke:** 360mm x 310mm (KDT690-EDLM)
  350mm x 210mm (KDT670-EDLM)
- **Repeatability:** ± 0,5µm
- **Load:** 22kg
- **Positioning Speed:** 250mm/s
- **Maximum Speed:** 500mm/s

Components

- **Motor:** Linear Motor, Option for second motor
- **Feedback:** Linear Incremental 100nm
- **Linear Guide:** Mini Rail
- **Controller:** Galil

Rotary Stage DT200EM



Application: measuring stage, handling stage

Features: very compact height, various motor types

Benefit

- rotary unit for PLT-series

Technical Data

- **Stroke:** n x 360deg
- **Repeatability:** 0,05deg
- **Load:** 20kg
- **Positioning Speed:** 300deg/s
- **Maximum Speed:** 600deg/s

Components

- **Motor:** Stepper Motor, DC, AC
- **Feedback:** Angular Measuring System incremental
- **Controller:** FMC, Galil

Rotary Stage DT 155

Application: measuring stage

Features: large aperture

Benefit

- compact height, very dynamic

Technical Data

- **Stroke:** n x 360deg
- **Repeatability:** 0,05deg
- **Load:** 5kg
- **Positioning Speed:** 180deg/s
- **Maximum Speed:** 360deg/s

Components

- **Motor:** Nanomotion
- **Feedback:** Angular Measuring System
- **Controller:** Galil

Rotary Stage DTs 115

Application: handling stage

Features: aperture, various motors

Benefit

- horizontal rotation on z-stage

Technical Data

- **Stroke:** n x 360deg
- **Repeatability:** 0,05deg
- **Load:** 5 kg
- **Positioning Speed:** 180deg/s
- **Maximum Speed:** 360deg/s

Components

- **Motor:** Stepper Motor, DC, AC
- **Feedback:** Encoder
- **Controller:** FMC2

Manipulator MP105-3

Application: multi purpose manipulator

Features: also available non-magnetic

Benefit

- extremely high resolution of nanometers
- high acceleration and speed

Technical Data

- **Stroke:** n x 360deg
- **Repeatability:** 0,05µm
- **Load:** 5kg
- **Positioning Speed:** 5mm/s PM, 30mm/s NM
- **Maximum Speed:** 10mm/s PM, 60mm/s NM

Components

- **Motor:** Piezo Motor up to 5mm/s, Nanomotion 30mm/s
- **Feedback:** Encoder, Angular Measuring System
- **Linear Guide:** Cross Roller (optionally Stainless Steel or Ceramics)
- **Controller:** Galil

Manipulator MP53-3

Application: multi purpose manipulator

Features: also available non-magnetic

Benefit

- extremely high resolution of nanometers,
- very compact

Technical Data

- **Stroke:** XYZ: 10mm
- **Repeatability:** uni ± 0,05µm und uni ± 0,03µm
- **Load:** 0,5kg
- **Positioning Speed:** 5mm/s PM
- **Maximum Speed:** 10mm/s PM

Components

- **Motor:** Piezo Motor up to 5mm/s, Nanomotion 30mm/s
- **Feedback:** 5nm Resolution
- **Linear Guide:** Cross Roller (optionally Stainless Steel or Ceramics)
- **Controller:** Galil

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