

M-850K Vacuum Hexapod 6-Axis Positioner

Parallel-Kinematics System for Wide Temperature Ranges



- 6 Degrees of Freedom, Works in Any Orientation
- Vacuum Compatible up to 10^{-6} hPa
- 200 kg Load Capacity (Vertical)
- Repeatability to $\pm 1 \mu\text{m}$
- Encoder Resolution to 5 nm

Model	Operating temperature range	Storage temperature	Travel ranges	Dimensions
M-850KTVH Vacuum Hexapod	-10 bis +25 °C	-20 bis +40 °C	± 50 mm (X,Y), ± 25 mm (Z), $\pm 15^\circ$ (θ_x, θ_y), $\pm 30^\circ$ (θ_z)	\varnothing 350 mm 330 mm height

M-850K Weatherproof Hexapod

Ultra-High-Precision Hexapod for Outdoor Operation



- Load Capacity to 750 N
- Unidirectional Repeatability to $5 \mu\text{m}$
- Clear Aperture \varnothing 420 mm
- Long Lifetime: 2 Million Cycles
- Drive: Brushless Motors
- Correspond to protection class IP 64
- Corrosion Protection

Model	Travel Range X / Y / Z	Max. load capacity	Mass	Dimensions
M-850KWAH Weatherproof Hexapod	$\pm 10 / \pm 11 / \pm 16$ mm	750 N	46 kg	Outer \varnothing 580 mm height 357 mm

M-810 Miniature Hexapod

High Precision in a Small Package

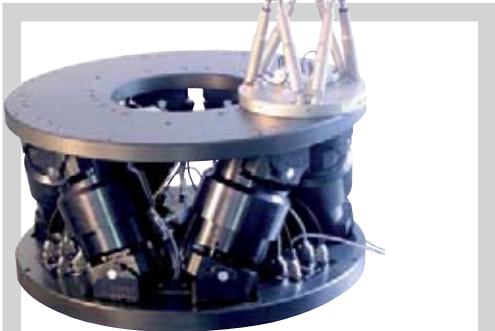


- Most-Compact Hexapod in the PI Portfolio
- Travel Range $40 \times 40 \times 13$ mm
- Resolution of a Single Strut < 100 nm
- Integrated Driver Electronics

Model	Load capacity	Travel range X / Y / Z	Travel range $\theta_x / \theta_y / \theta_z$	Max. velocity	Dimensions
M-810.00	5 kg	± 20 mm ± 20 mm $\pm 6,5$ mm	$\pm 11^\circ$ $\pm 11^\circ$ $\pm 30^\circ$	10 mm/s	Outer \varnothing 100 mm height 118 mm

M-850K Ultra-High-Load Hexapod

Precise Hexapod for Ultra-High Loads up to 1 Ton



The vacuum compatible Hexapod M-850KHLH provides six degrees of freedom for loads up to 1 t, here with a standard M-840 hexapod for size comparison

- Six Degrees of Freedom
- Max. Load Capacity to 1000 kg
- Repeatability to 2 μ m
- Drive: Brushless Motors with Brake
- Vacuum Compatible up to 10^{-6} hPa

Model	Travel range X / Y / Z	Rotation range $\Theta_x, \Theta_y, \Theta_z$	Max. velocity X/Y/Z	Dimensions
M-850KHLH	± 12 mm	$\pm 3^\circ / \pm 3^\circ / \pm 4^\circ$	0.5 mm/s	\varnothing outside 1 m height 0.5 m

M-850K Large-Aperture High-Load Hexapod

6-Axis Precision Positioning & Alignment System for Inspection Systems



Dimensions of 100 x 84 x 40 cm and a load capacity of up to 200 kg makes this custom Hexapod system suitable for all kinds of fine-positioning tasks, as in TV-screen inspection

- 200 kg Load Capacity (Vertical)
- Very Large Aperture (640 x 820 mm)
- Six Degrees of Freedom
- No Moving Cables for Improved Reliability and Precision
- Parallel-Kinematics Design—Significantly Smaller and Stiffer than Serial-Kinematics Systems, Better Dynamics
- Virtual Pivot Point
- Sophisticated Controller Using Vector Algorithms Included

Model	Max. load base-plate horizontal optional)	Travel range X / Z / Z	Travel range $\Theta_x, \Theta_y, \Theta_z$	Typ. velocity	Dimensions
M-850KLAH Large Hexapod	200 / 50 kg	± 25 mm	$\pm 5^\circ$	2 mm/s lin. 25 mrad/s rot.	100 x 84 x 40 cm

M-850K Ultra-High Load Hexapod

6-Axes, Long Travel, Micron Precision, 1 Ton in Any Orientation



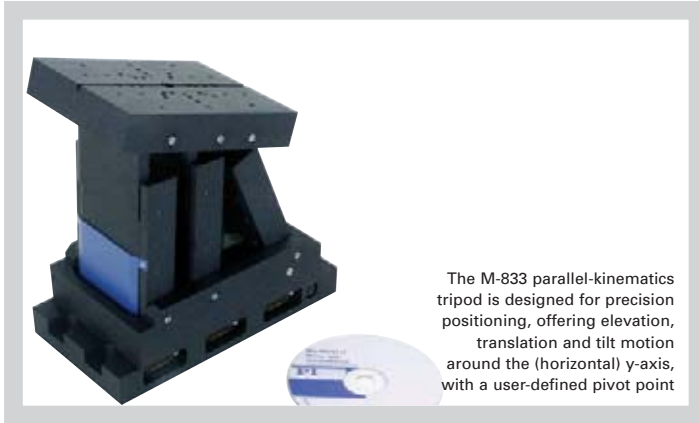
This custom parallel-kinematics system positions loads up to one ton in any orientation with micron accuracy

- Load Capacity to 1000 kg in Any Orientation
- Six Degrees of Freedom
- Travel Ranges to ± 200 mm, to $\pm 20^\circ$
- Resolution to 0.8 μ m, to 0.5 μ rad
- Drive: Brushless Motors with Brake
- Sophisticated Controller Using Vector Algorithms

Model	Travel ranges	Push/pull force	Max. velocity	Unidirectional Repeatability	Dimensions
M-850KHTH High-Load Hexapod with Long Travel Range	± 200 mm (X, Y), ± 100 mm (Z) $\pm 20^\circ$ (Θ_x, Θ_y), $\pm 5^\circ$ (Θ_z)	10,000 N	1 mm/s	± 1 μ m; ± 3 μ rad	Baseplate: 900 mm \varnothing Upper platform: 800 mm \varnothing height 714 mm aperture: \varnothing 500 mm

M-833 Parallel Kinematic Tripod / Goniometer

Precision Positioning in X, Z, θ_y

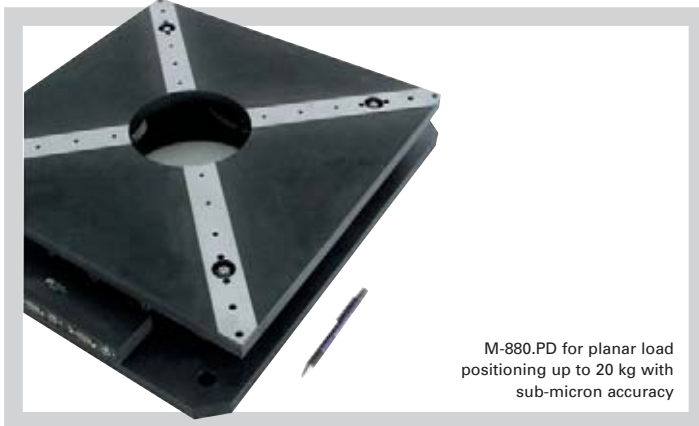


- Goniometer Z Stage with Freely Selectable Pivot Point
- Travel Ranges ± 25 mm / ± 25 mm / $\pm 30^\circ$
- Load Capacity to 4 kg
- Min. Incremental Motion to 0.1 μ m
- ActiveDrive™ Servo Motors
- Compact Design with Parallel Kinematics

Model	Travel ranges	Max. velocity	Stiffness	Dimensions
M-833.00 Tripod Goniometer-Stage	± 25 mm (X, Z), $\pm 30^\circ$ (θ_y)	10 mm/s (linear)	50 N/ μ m	223,2 x 110 x 192 mm

M-880 3-Axis Planar Precision Positioning System

XY-Rot-Z Parallel Kinematics System with Very High Holding Force

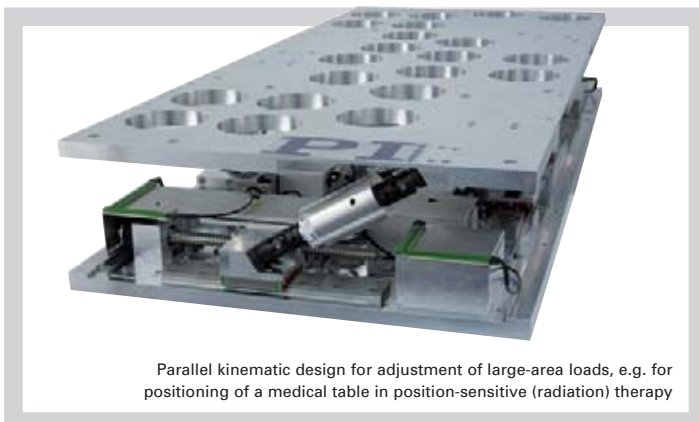


- Travel Ranges 20 x 20 mm / 8°
- Static Load Capacity to 150 kg
- ActiveDrive™ Servo Motors
- Low Profile through Parallel Kinematics
- Min. Incremental Motion to 0.75 μ m
- Large Clear Aperture
- Sophisticated Controller Included

Model	Active Axes	Travel range	Max. velocity	Stiffness (linear axes)	Dynamic load capacity	Static load capacity
M-880.PD	X, Y, θ_z	± 10 mm, $\pm 4^\circ$	20 mm/s	5 N/ μ m	200 N	1500 N

M-850K 6-Axis Positioning System

Low Profile Precision Positioning System for Large-Area Loads to 200 kg



- Parallel Kinematics with 6 DoF for Higher Dynamics, Stiffness and Compact Design
- Encoder Resolution 0.1 μ m
- Repeatability 0.3 mm in 6D Space
- Integrated Brakes and Additional Safety Switches
- No Moving Cables for Improved Reliability, Reduced Friction
- High Velocity to 16 mm/s
- Cartesian Coordinate Control with Virtualized Pivot Point

Model	Travel	Min. incremental motion	Static/dynamic load capacity	Mass	Dimensions
M-850KPAH Positioning System	± 50 mm (X, Y), ± 25 mm (Z)	0,1 mm, 0,8 mrad	8000 N / 2000 N	70 kg	1200 x 530 x 184 mm
	$\pm 3^\circ$ for all red. axes				