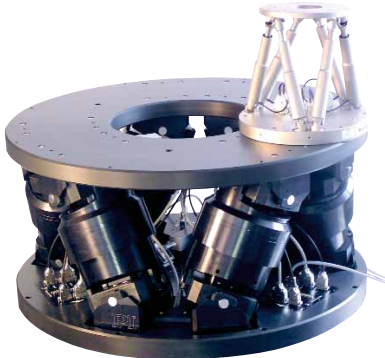


M-850K Ultra-High-Load Hexapod

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 μm
- 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 μm , to 0.5 μrad
- 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 μm ; ± 3 μrad	Baseplate: 900 mm \varnothing Upper platform: 800 mm \varnothing height 714 mm aperture: \varnothing 500 mm

Linear Actuators & Motors

Nanopositioning / Piezoelectrics

Nanometrology

Micropositioning

Hexapod 6-Axis Systems / Parallel Kinematics

Linear Stages

Translation (X)

Vertical (Y)

Multi-Axis

Rotary & Tilt Stages

Accessories

Servo & Stepper Motor Controllers

Single-Channel

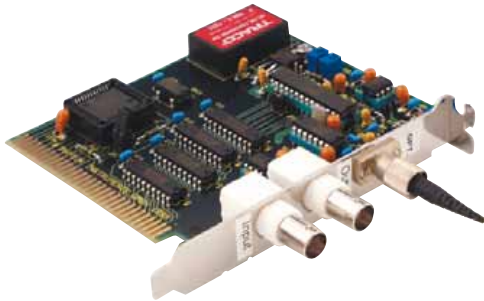
Hybrid

Multi-Channel

Micropositioning Fundamentals

Index

Hexapod Options & Accessories



Photometer card



The F-206.MC6 manual control pad facilitates system setup and testing procedures. It permits independent motion in all degrees of freedom with programmable step size

Optical Metrology Boards

The controllers for the F-206, M-840 and M-850 Hexapod systems can be equipped/retrofitted with the following photometer cards: F-206.VVU (2-channel, visual) and F-206.iiU (2-channel, IR).

F-206.MC6 6D Interactive Control Pad Upgrade

The F-206.MC6 manual control pad facilitates system setup

and testing procedures. It consists of a board that plugs into the Hexapod controller and a control pad with six digital "potentiometer" knobs (one for each degree of freedom).

The manual pad works seamlessly with the Hexapod software, and allows programmable step sizes of 1 μm to 500 μm (linear) and 0.001 to 0.5deg (angular) per step.

External positioning commands (via the computer interface) can be intermixed with manual positioning input without loss of the true position, because both inputs operate on the same position registers of the Hexapod controller. The control pad comes with a 3 m cable. A 3 m extension cable is available as part number C-815.MC6.

More Options see F-311 PIMotion&Vision™ System, F-361 Optical Power Meter and F-603 Fiber, Objective and Waveguide Holders. (www.pi.ws)

Technical Data

Model	F-206.iiU, F-206.VVU Optical Metrology Boards
Optical power range	5 nW – 10 mW
Analog input voltage range	0 – 10 V
A/D resolution	16-bit
Sample rate	10 kHz
Bandwidth	300 Hz (optical input), 10 kHz (electrical input)
Max. sensitivity at:	880 nm (visible, F-206.VVU); 1550 nm (IR range, F-206.iiU)
40% sensitivity at:	480 / 1040 nm (visible, F-206.VVU); 850 / 1680 nm (IR range, F-206.iiU)

F-206.NCU Rapid NanoAlign Upgrade

For applications where alignment with nanometer-range resolution is required, or where rapid mapping of the entire cross-section of a component in as short a time as possible is desired, the F-206.NCU Rapid NanoAlign upgrade is recommended. It consists of

the P-611.3SF XYZ piezo-drive NanoCube® (see p. 2-52) and the E-760 controller board (see p. 2-138), which is installed in the F-206 controller.



F-206.NCU Rapid NanoAlign Upgrade consists of the P-611 NanoCube® piezo nanopositioner and the E-760 controller card