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PI PRESS RELEASE

New Catalog: Multi-Axis Positioning Systems with High Accuracy - Parallel-Kinematic Hexapods

October 2018, Auburn, MA – Requirements for precision automation systems in high-tech industries and research often deal with motion at the sub-micrometer and even nanometer level – in multiple axes. When compactness and easy access are added to the equation, parallel kinematic designs make a lot of sense.

PI's new 130 page catalog provides background information and features a variety of [Hexapod \(Stewart-Platform\) motion and positioning systems](#) with 6 degrees of freedom and high resolution and repeatability in the sub-micrometer and even nanometer range.

Hexapods are available with travel ranges from ½ inch to several hundred millimeters and load ranges from 0.5kg to several tons. Hexapods can be optimized for high load, high precision and high speed.

Depending on the load, speed, and precision class, electrodynamic, electromechanical or piezoelectric drives are employed. High-speed, direct-drive hexapods are used for motion simulation applications from reproducing hand tremors for camera stabilization to ship motion analysis.

Software and Hexapod Motion Controllers

All PI hexapods shown in the new catalog are operated with dedicated [state-of-the-art motion controllers and software](#). The required coordinate transformations are handled inside the controller and are transparent to the user – all motions are programmed in XYZ linear coordinates and Theta-X, Theta-Y, and Theta-Z Rotations. In addition, user defined coordinate systems and a user programmable center of rotation (pivot point) enhance the usability.

Application examples of hexapod Stewart platforms include precision automated alignment in optics, photonics, medical design, robotics, aeronautics and astronomy, camera lens manufacturing, etc.

Download Hexapod Catalog

<https://www.pi-usa.us/en/resources/catalogs-brochures/#c76547>

Standard and Custom

PI has in-house engineered solutions with over 4 decades of experience working with customers to provide products that meet application demands, and can quickly modify existing product designs or provide a fully customized OEM part to fit the exact requirements of the application.

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About PI

PI is a leading manufacturer of air bearing stages, piezoelectric solutions, precision motion control equipment, and hexapod parallel-kinematics for semiconductor applications, photonics, bio-nano-technology and medical engineering. PI has been developing and manufacturing standard & custom precision products with piezoceramic and electromagnetic drives for 4 decades. The company has been ISO 9001 certified since 1994 and provides innovative, high-quality solutions for OEM and research. The PI group employs more than 1,200 people worldwide in 15 subsidiaries and R&D / engineering centers on 3 continents.

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