Optimized for High Throughput and a Long Lifetime:  
Precision Miniature Hexapod for Industrial Applications

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Parallel-kinematic hexapods offer six degrees of freedom when positioning in a compact space and work with considerably more precision than is possible with serial, stacked systems. Many applications in industry and research benefit from this and include for example, micro manufacturing, medicine technology, camera positioning for optical inspection or photonics. In order to meet the ever-increasing demand from customers for high throughput and robustness and the highest possible positioning accuracy, PI (Physik Instrumente) has further optimized the proven H-811 miniature hexapod.

The new filigree version of the H-811.I2 hexapod has the same installation space as before, positions with velocities up to 20 mm/s, and is therefore twice as fast as its predecessor. Its six struts work with a resolution of 5 nm. This allows it to achieve the high repeatability of +/- 0.06 µm. The hexapod covers travel ranges up to 17 mm (in the X and Y axis) or ± 6,5 mm (in the Z axis) and is also impresses with its long lifetime of 20 million motion cycles. Loads up to 5 kg can be positioned quickly, with high precision, and over long operating times. Vacuum-compatible versions are also available.

Brushless DC motors are the driving force of the miniature hexapods. They are particularly suitable for high rotation speeds, can be controlled very accurately, and allow high precision. Dispensing with sliding contacts also makes them long lived, allows them to run smoothly with very low wear.

PI controllers control the hexapods. It is also possible to use Cartesian coordinates for convenient commanding of complex motion profiles. The hexapod controllers can also communicate via EtherCAT if a higher level controller is connected.

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For more information, refer to:

<https://www.physikinstrumente.com/en/products/parallel-kinematic-hexapods/hexapods-with-motor-screw-drives/h-811i2-6-axis-miniature-hexapod-700886/>

About PI

Well known for the high quality of its products, PI (Physik Instrumente) has been one of the leading players in the global market for precision positioning technology for many years. PI has been developing and manufacturing standard and OEM products with piezo or motor drives for 40 years. By acquiring the majority shares in ACS Motion Control, a worldwide leading developer and manufacturer of modular motion controllers for multi-axis and high-precision drive systems, PI has made a major step forward in providing complete systems for industrial applications with the highest demand on precision and dynamics. In addition to four locations in Germany, the PI Group is represented internationally by fifteen sales and service subsidiaries.