



PI's New Air Bearing Motion Controller, A-81x

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PI PRESS RELEASE

Motion Controller for Linear & Rotary Air Bearing Stages

Geared towards precision industrial motion and automation systems, this new controller integrates digital servo, drivers, and power supply in one package.

April 2017, Auburn, MA – Air bearings provide advantages over mechanical bearings when frictionless vibration-free motion is required, highly constant velocity control is crucial, and when angular repeatability and geometric performance must be optimal. Nanopositioning industry leader PI (Physik Instrumente) L.P. has released a new high-performance motion control controller designed to handle 1, 2 or 4-axis of PIglide air bearing positioning stages.

Based on ACS Motion Control Hardware

Equipped with ultra-low noise PWM drives, the A-81x controller integrates closed loop servo control, motor drives, and power supplies in a compact 19-inch rack mount design. High resolution incremental encoders with sine/cosine output and absolute encoders based on BiSS-C protocol are supported. The multi-axis controllers are based on ACS hardware, a company recently acquired by PI. The PI Group also offers custom motion systems and controls for precision automation applications.

Why Use Air Bearings?

Designed to float on a cushion of air without rollers or sliding components, air bearing positioners deliver extremely precise and vibration-free motion, with excellent velocity stability, and zero wear of mechanical components, which are ideal for high-end industrial inspection and manufacturing operations. Air bearing stages are ideally suited for high precision applications, such as metrology, photonics alignment, semiconductor, wafer inspection, laser marketing, flat panel display, precision scanning applications, and cleanroom applications.

200+ Man Years of In-House Air Bearing Design Experience

PI designs and manufactures all air bearing products in the USA. PI's engineering team has more than 200 man years of air bearing design experience. In addition to customized systems for OEMs, PI offers a substantial standard product line of air bearing stages that includes motorized and non-motorized, linear, rotary, spherical, X/XY, voice coil, compact, and large scale systems, as a complement to the existing comprehensive range of piezo nano positioning stages, traditional motorized positioners and hexapod 6-axis parallel positioning systems. The addition of air bearing technology puts PI in the unique position to cover the whole motion range from finger-tip sized nano-positioners to large scale stages with long travel ranges, through a plethora of different drives and guiding systems that can be tailored to meet the needs of an OEM or customer.

Specifications, Datasheet, More Information

http://www.pi-usa.us/products/Air_Bearing_Stages/index.php#A81x

Watch Air Bearings Videos

<http://www.pi-usa.us/products/Motion-Positioning-Videos/index.php#AB>

Read Air Bearings Articles

<http://www.pi-usa.us/blog/category/air-bearing-stages-components-systems>

Standard and Custom Solutions

PI has over 4 decades of experience providing in-house engineered precision motion control solutions, and can quickly modify existing product designs or provide a fully customized OEM part to fit the exact requirements of the customer's application.

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 1,000 people worldwide in 15 subsidiaries and R&D / engineering centers on 3 continents.

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