



PI's Newest Air Bearing Motion Controller: A-82x

Click [here](#) for high res image file

PI PRESS RELEASE

Multi-Axis Precision Motion Controller: 4 / 6 / 8 Channels, for Air Bearing Motion Systems

This new air bearing controller from PI optimizes the performance of stages equipped with direct drive servo motors and high-resolution encoders.

January 2018, Auburn, MA – Nano precision motion industry leader PI (Physik Instrumente) LP has released a new high-performance motion controller designed to handle 4, 6 or 8-axes of PIglide air bearing positioning stages and precision automation sub-systems. Air bearings provide many advantages compared to mechanical bearings, such as no-particle generation, frictionless, vibration-free motion, highly constant velocity control, nanometer-precision repeatability, and optimal geometric performance.

Based on ACS Motion Control Hardware - High Output Power up to 3.9KW

The A-82x controller family integrates closed-loop digital servo control, drivers, and power supply in one convenient rack mount design. Depending on the number of axes, total output power of 1100W to 2000W with peak power to 3900W is provided.

A-82x controllers can be operated in stand-alone mode running on stored programs in the integrated flash memory in addition to control via an external computer.

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 global motion control leader which became part of the PI Group in 2017. The new controllers also feature ACS ServoBoost™ which provides better, more consistent and stable servo performance that is insensitive to noise or changes in the system. The PI Group also offers standard and 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.

Applications

High precision operations, 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#A82x

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.

USA / Canada

<http://www.pi-usa.us> | info@pi-usa.us

East

(508) 832-3456

Midwest

(508) 832-3456

West

(949) 679-9191 (LA Area & Mexico)

(408) 533-0973 (Silicon Valley/Bay Area)

- > [READ the PI Tech Blog](#)
- > [WATCH PI Videos on YouTube](#)
- > [FOLLOW PI on Twitter](#)