



New V-508 Linear Stage

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PI PRESS RELEASE

New Precision Linear Motor Stage Family with Magnetic Direct Drive and Absolute Encoders offers a Variety of Options – to Suit Many Applications

PI's ultra-precise linear motor stages are well-suited for industry and research. Applications include metrology, testing, positioning, scanning, precision automation, micro-assembly, biotechnology, delay-lines, laser beam control, optics, lens testing, and photonics alignment.

October 2017, Auburn, MA – Motion and nanopositioning industry leader PI further expands its PIMag® series of high dynamics linear motor stages with a family of 18, the V-508 - a new series of compact linear positioning stages with high force 3-phase linear motors and crossed roller guides.

High Velocity - High Duty Cycle - 3 Travel Ranges

The V-508 family of linear motor stages is offered with 80mm, 170mm, and 250mm travel range. Two motor options are available – ironless for highest resolution and smoothest motion, and iron-core for highest force, acceleration, and velocity up to 1m/sec.

Mechanically, the V-508 series features high load precision crossed roller bearings with anti-creep cage assist, preventing roller creep – ideal prerequisites for long lifetime in high duty cycle industrial applications, together with the zero-wear, non-contact linear motor.

Encoder Options – Incremental and Absolute Measuring

A variety of incremental and absolute measuring linear encoders are available, from 0.2 nanometer resolution to 78 nanometers resolution. Absolute encoders provide the stage position to the controller immediately after power up – no referencing required and no possibility to lose encoder counts in electrically noisy environments.

What's the Benefit of Linear Motors?

Linear motors provide very smooth motion, and a high dynamic velocity range along with rapid acceleration because they provide motion directly without the need of additional mechanical components, such as drive screws and gearboxes that add friction, vibration, and noise. They are ideal for scanning applications or automation tasks where repetitive fast start/stop motion with high precision is required and where reliability and maximum uptime are crucial. In addition to electromagnetic 3-phase and voice-coil linear motors, PI also provides several types of electro-ceramic linear motors.

Controllers / Software

Several types of controllers, along with a plethora of software tools, drivers and example programs are available from PI and ACS motion control.

Read tech article, *Performance of Direct-Drive Linear Motor Stages in Precision Positioning Applications*

<http://www.pi-usa.us/blog/performance-of-linear-motor-stages-in-precision-positioning-applications/>

Specifications, Datasheet, More Information >

http://www.pi-usa.us/products/precision_positioning_pi-micos/Linear_Precision_Positioning_Stages_Mc.php#V508

Standard and Custom

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.

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

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