Small, Precision, Affordable: PI’s New V-408 Linear Stage
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PI PRESS RELEASE
Small, Precision, Affordable: Linear Motor Stage with Magnetic Direct Drive

*PI’s new stage is well-suited for industrial automation applications with high demands on dynamics, duty cycles and nanopositioning precision.*

August 2017, Auburn, MA – Motion and nanopositioning industry leader PI expands its PIMag® series of high dynamics linear motor stages with a new compact positioner for automation tasks. The new V-408 stage is equipped with an incremental linear encoder for direct position measurement and a high-force 3-phase linear motor drive.

**High Velocity / High Duty Cycle / Low Cost**
The V-408 features high load capacity precision crossed roller elements with anti-creep cage assist, preventing roller creep, and a zero-wear, non-contact linear motor – ideal prerequisites for long lifetime in high duty cycle industrial applications. The high-force linear motor achieves velocities up to 1.5m/sec. An integrated optical linear encoder provides 10 nanometers resolution. The stage achieves 20nm minimum incremental motion and excellent geometric performance with 4µm straightness and flatness.

**Affordable and Compact 1” and 2” Travel Range**
The V-408 is designed to keep cost of ownership and operation at a minimum. Two models are offered with 25mm and 50mm travel range. Integration is facilitated by the compact dimensions with a low profile of only 25mm. The 1” travel model features a square footprint of 80x80mm while the 2” travel model is only 25mm longer.

**Why Linear Motors?**
Linear motors provide very smooth motion, and a high dynamic velocity range along with rapid acceleration. 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.

**Suitable Motion Controllers**
The V-408 stage can be controlled by PI’s C-891 motion controller and also by ACS and 3rd party controllers.
Read Tech Blog, *Performance of Direct-Drive Linear Motor Stages in Precision Positioning Applications*  

Watch the Direct Drive Systems Video >  
https://www.youtube.com/embed/1jgp99cV1xk?rel=0&start=16

Specifications, Datasheet, More Information >  
http://www.pi-usa.us/products/Compact_Positioning_Stages/index.php#V408

**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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