

## FEATURES

Is a Linear Motor Right for You?

See Aerotech at ATX East

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Motion Control and Positioning Library

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## TRADESHOWS

### Automation Technology Expo East

Jacob K. Javits Convention Center  
New York, NY  
Booth 3331  
June 3-5, 2008  
<http://www.atxshow.com>

### Optatec 2008

Messe Frankfurt  
Ludwig-Erhard-Anlage 1  
Frankfurt, Germany  
Hall 3, Booth A18  
June 17-20, 2008  
<http://www.schall-optatec.com>

### Semicon West

Moscone Center  
San Francisco, CA  
Booth 5861  
July 15-17, 2008  
<http://www.semi.org>

## AEROTECH QUICK LINKS

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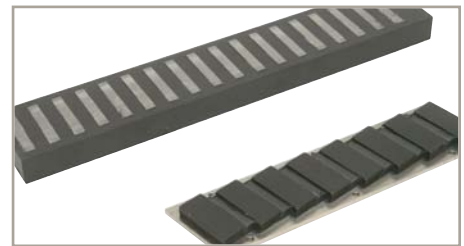
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## Is a Linear Motor Right for You?

Linear motors, once an exotic and expensive alternative to lead screws, ball screws, and belt and pulley systems, have now become commonplace in linear motion applications. The superior performance of linear motors combined with competitive pricing due to improved manufacturing methods and increased scale, means that linear motors can now be considered for many applications that were the domain of rotary-to-linear systems in the past. Aerotech is a long-time manufacturer of both linear motors as well as lead-screw/ball-screw motion solutions, and is therefore in a unique position to provide the critical information necessary to make an informed decision on which technology is best in your application.



*A sample of Aerotech U-channel linear motors.*



*A sample of an Aerotech flat linear motor with skewed magnets and steel laminations to increase force.*

Three recent articles, as well as our [Linear Motors Application Guide](#), provide a useful resource for those that require a linear motion solution and are not familiar with linear motors. Please find a link below to each article, to our [Linear Motors Application Guide](#), and to our [Motor Sizer](#) software. And, finally, our Application Engineers would be happy to assist you in your application.

**[Linear Motor Basics](#)** – This is a brief introduction to the common types of linear motors available and the pros and cons of each. While not an exhaustive discussion of linear motor technology, this article does provide a quick overview for those unfamiliar with linear motors.

**[Linear Motors Part I: The Straight Scoop](#)** – This article provides a more in-depth discussion of linear motors including categorizing, choosing a design, bearings, and tradeoffs.

**[Linear Motors Part II: The Good, the Bad, and the Ugly](#)** – This article discusses length of travel, performance versus rotary motors, contamination issues, and applications.

**[Linear Motors Application Guide](#)** – Aerotech's booklet is a tutorial guide to the history, design, types, benefits, commutation, and application of linear motors.

**[Motor Sizer](#)** – Aerotech's Motor Sizer software makes it easy to specify and choose the perfect linear or rotary motor for your application.

Please go [HERE](#) to discuss your motion application with an Aerotech Application Engineer.

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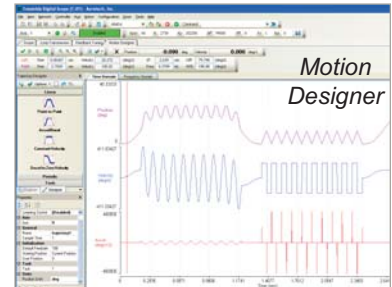
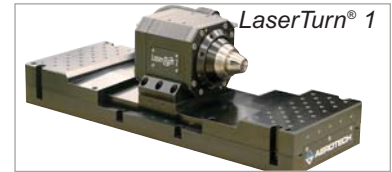
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## Visit Aerotech at ATX East

Aerotech will demonstrate a wide variety of motion control products at [ATX East](#) in New York, Booth 3331, June 3-5. Product demonstrations will include:

- LaserTurn® 1 and 2 dedicated motion subsystems for cylindrical laser processing applications
- ABL1500 linear air-bearing stage
- PRO115 hard-cover linear stage
- Motion Designer software GUI for generating or importing motion trajectories, and running and then evaluating the trajectory



Please join us for a demonstration at [ATX East](#), [schedule](#) an appointment with an Aerotech Application Engineer, or view products on our [website](#).

## Latest Software Releases

This section lists the latest revisions of Aerotech software, providing a handy method of checking to see that your Aerotech software, and hence your Aerotech system, is working at peak efficiency. All Aerotech software is available for instant download from our website — just click the software title! An entry in **red** means the software has been updated since our last newsletter.

Software	Version	Description
A3200 Digital Automation Platform	<b>Version 2.21.001</b>	Nmotion® SMC Libraries and Utilities, Ncontrol® Software Developers Kit, Nview® HMI, Windows Help Files
Soloist Single-Axis Controller	Version 2.09.002	Development Tools, Libraries, Help Files, and Manuals
Ensemble Multi-Axis Controller	Version 2.00.002	Development Tools, Libraries, Help Files, and Manuals
U600 HMI	Version 6.00.136	Windows® HMI
U600 SDK	Version 6.00.136	U600 Software Developers Kit
U600 LIB	Version 6.00.136	Windows® Help File, U600 Libraries and Utilities
U500 PC-Bus-Based Controller	Version 5.22	Windows® HMI and Windows® Help File
U511 Stand-Alone Controller	Version 5.22	Interface Software and Windows® Help File

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## Motion Control and Positioning Library

This resource provides a short summary and a link to articles, tutorials, white papers, and other materials that discuss problems and solutions involving motion control and positioning equipment and systems.

## Articles

### Linear Motor Basics

Linear motors continue to increase in industrial applications. This article provides an overview of the linear motor types available. Read the full article [HERE](#).

### How to Select and Install Air Bearing Stages

High-precision test, measurement, and manufacturing operations often require smooth, frictionless, low-maintenance motion control systems. An excellent choice for a complete motion subsystem is a linear or rotary stage that uses an air bearing for guidance, coupled to a direct-drive motor, a high-resolution position encoder, and a digital controller. Read the full article [HERE](#).

### Micropositioning Meets Mechatronics

Compared to traditional methods, the mechatronic design approach is more of a holistic approach to product design, where the tradeoffs between different functional components (software, hardware, user interface, etc.) are carefully considered for their impact on overall performance. Read the full article [HERE](#).

### Motion Control Requirements for Hermetic Seam Welding

A discussion of the motion control platform in regard to hermetic seam welding of sophisticated electronic devices implanted in the human body. Read the full article [HERE](#).

### Digitizing a Century of Astronomical Images

Aerotech's ABL9000 air-bearing stage is put to use to efficiently digitize more than 500,000 photonegatives. For more information on this article, click [HERE](#).

### Two-Photon Polymerization: A New Approach to Micromachining

Femtosecond lasers enable microfabrication with resolution beyond the diffraction limit. Read the full article [HERE](#).

### Aerotech Pushes Mechatronics Envelope with Motion Systems

An interview with Dr. Robert Novotnak discussing how mechatronics is employed in high-precision motion control. Read the full interview [HERE](#).

### Precise Triggering of External Events Based on Axis Position

An axis-based trigger in the controller can significantly improve part quality, reduce cycle time, and eliminate processing problems. This article discusses Aerotech's unique PSO (Position Synchronized Output) option. Read the full article [HERE](#).

### Linear Motors Application Guide

A tutorial guide to the history, design, and application of linear motors. Get the PDF [HERE](#).

### Applications Dictate Gimbal Selection

The choice between [direct-drive](#) and [gear-driven](#) gimbals and optical mounts presents an opportunity for a comparison of the pros and cons for each. Read the full article [HERE](#).

## Search the Aerotech Article Archive

## Standards Organizations

**1394 Trade Association**  
<http://www.1394ta.org>

**ISA, the International Society for Measurement and Control**  
<http://www.isa.org>

**IEC**  
<http://www.iec.ch>

**ISO**  
<http://www.iso.org>