



Ultimac Controller Highlight

The Danaher Motion Ultimac is a family of fully programmable, multi-axis, microprocessor-based motion controllers. The Ultimac can control up to 4 axes of any combination of stepper or servo motors. By offering a choice of microprocessors, the Ultimac can be configured to fit any budget or range of motion control requirements; from a simple, integrated 2-axis stepper controller and driver, to a 4-axis servo package able to perform sophisticated, ultra-precision motion profiles. The Ultimac delivers velocity and acceleration control, linear and circular interpolation, as well as coordinated motion control in 3 and 4 axes.

Large Stages Market Highlight

Danaher Motion leads the way in high-precision motion platforms for Flat Panel Display processing. Danaher Motion's expertise in providing high-precision gantry platforms provides cutting-edge solutions to Flat Panel Display (FPD), Solar (Thin Film) and other industry process tool OEM's.

- Base platforms suitable for substrate sizes through Gen 10.
- Prepared for operation in Class 10 cleanroom environments.
- Complete systems optimized for high throughput.
- Existing gantry designs minimize the FPD OEM's time to market.
- Patented multi-axis servo control technology.
- Capability of both vacuum chamber and atmospheric environments.



▲ GEN 7



◀ GEN 6



Helping you build a better machine, **faster.**

USA, CANADA or MEXICO

Danaher Motion
203A West Rock Road
Radford, VA 24141 USA
Phone: 1-540-633-3400
Fax: 1-540-639-4162
E-mail: DMAC@danahermotion.com
Literature: LitRequest@danahermotion.com

ASIA

China
Danaher Motion
Rm 2205, Scitech Tower
22 Jianguomen Wai Street
Beijing, China, 100004
Phone: +86 10 6515 0260
Fax: +86 10 6515 0263
email: chinainfo@danahermotion.com.cn

Japan
Danaher Motion Japan
2F, Sigma Hatchobori Bldg
2-7-1, Hatchobori Chuo-ku
Tokyo 104-0032 Japan
Phone: +81-3-6222-1051
Fax: +81-3-6222-1055
Email: info@danahermotion.com

FOR IMMEDIATE ASSISTANCE

Danaher Motion - Dover
200 Flanders Road
Westborough, MA 01581 USA
Phone: 1-508-366-1456
www.doverinstrument.com

Danaher Motion - Neat
7C Raymond Avenue
Salem, NH 03079 USA
Phone: 1-603-893-0588 or 1-800-227-1066
www.neat.com
www.danahermotion.com/neat

EUROPE

France
Danaher Motion
C.P. 80018
12, Rue Antoine Becquerel - Z.I. Sud
F-72026 Le Mans Cedex 2
France
Phone: +33 (0) 243 50 03 30
Fax: +33 (0) 243 50 03 39
Email: sales.france@tollo.com

Germany
Danaher Motion GmbH
Wacholderstr. 40-42
D-40489 Düsseldorf
Germany
Phone: +49 (0) 203 9979-0
Fax: +49 (0) 203 9979-155
Email: sales.germany@danahermotion.com

Italy
Danaher Motion srl
Largo Brughetti ZI
20030 Bovisio Masciago (MI)
Italy
Phone: +39 0362 59 42 60
Fax: +39 0362 59 42 63
Email: info@danahermotion.it

Sweden
Danaher Motion
Box 9053
SE-29109 Kristianstad
Sweden
Phone: +46 (0) 44 24 67 00
Fax: +46 (0) 44 24 40 85
Email: helpdesk@tollo.com

UK
Danaher Motion
Chartmoor Road,
Chartwell Business Park
Leighton Buzzard, Bedfordshire
LU7 4WG, United Kingdom
Phone: +44 (0) 1525 243 243
Fax: +44 (0) 1525 243 244
Email: uksales@danahermotion.com



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Precision Motion

Solutions for Data Storage, Large Stages For FPD and Solar Thin Film, Life Sciences, Semiconductor and Precision Automation

Job No. 2007-11-04 UK KWP Lit Code: J101
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Mechanical Bearing Stages and Actuators - Precision & Value

From precision linear and rotary translation stages, to highly-integrated multi-axis systems, Danaher Motion offers an extensive range of electro-mechanical products based upon mechanical bearing way technologies. Our products are recognized world-wide for precision, performance and high reliability.

Our standard product offering features:

- Low-profile, small-footprint designs which minimize workspace requirements
- Crossed-roller way stages for high stiffness throughout travel
- Recirculating rail way stages for high speed and load capacity
- Leadscrew-driven stages for smooth, precise motion
- Ballscrew-driven stages for high duty cycle and mechanical advantage
- Iron-core linear motor driven stages for move-and-settle performance
- Ironless linear motor driven stages for superior performance in scanning (constant velocity) applications
- Moving-magnet linear motor stages that simplify cable management requirements
- Direct drive and worm gear driven rotary stages for precise angular positioning
- Belt- and screw-driven rodless actuators with standard travels over 2.5 meters
- Rod-type electric cylinders capable of up to 25,000N of thrust force

These products are the building blocks for precision multi-axis platforms. Their compact size, in either linear or rotary motion format, are targeted for the Life Sciences market and other precision automation requirements.

Life Science Market Highlight

Application: Array Scanning

Array scanners offer high resolution array imaging for large-scale fluorescent imaging studies, such as microarrays, tissue arrays, and cell arrays. Critical motion requirements include smooth scanning movement, compact stage design, high linearity, high repeatability and the ability to support a cantilevered sample plate.

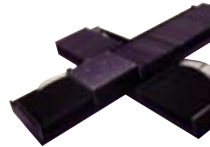


Solution: RMR™ Crossed Roller Stage

The crossed roller ways provide excellent stiffness, flatness, straightness, pitch and yaw performance. The high-precision leadscrew offers superior scanning performance and high repeatability. Stepper motor driven for this application, the RMR is the cost effective solution in a compact (2" high x 2 5/8" wide) package. Danaher Motion also employs the URS™ series stages in similar applications.



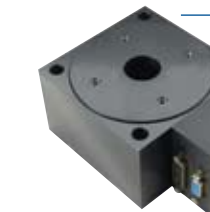
MAB-100 Linear Air Bearing Stage



SAS Linear Motor Shuttle Stages in XY



XYR Monolithic Crossed-roller XY Stage



DRT Direct Drive Rotary Stage



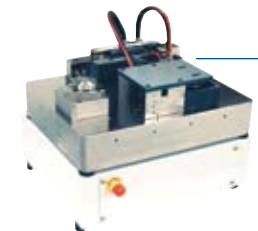
URS Integrated Rail Ballscrew Stage



S300 XY Air Bearing Stage



AirBeam AB-610 Linear Air Bearing Stage



Compact Spin Stand



Triathlon Planar Air Bearing Stage with Granite Bridge



AirGlide AB 150x150

Air Bearing Stages & Systems - Highest Accuracy

Danaher Motion offers a comprehensive product line of standard and customized products incorporating air bearing technology.

We provide a broad range of ultra-precision linear translation stages, rotary spindles, XY tables, and a variety of multi-axis positioners. These products are available with a variety of drive and feedback devices from leadscrews to linear motors, and optical encoders to laser interferometers.

Non-contact air bearing stages are perfect for applications that require sub-micron accuracy and exceptionally smooth velocity control. Markets including digital imaging, semiconductor, and flat panel display (FPD) processing rely on these intrinsic performance advantages.

Our standard air bearing product offering features:

- Rotary spindles with proprietary crash proof technology and capable of speed in excess of 30,000 rpm
- Precision stationary-substrate gantries available with XY travels over 2 meters
- Compact spin stands integrating XY and rotary air bearing axes with high-performance controls
- Split-axis gantries ideal for high-speed, high-accuracy, moving-substrate applications
- Low-profile XY planar stages offering increased travel capacity without any compromise in performance
- Compact, low-profile single axis stages with resolutions well below 1 nanometer
- High Dynamics Z-Axis for Autofocus applications

Data Storage Market Highlight

Application: Media Testing

The industry's leading head, media, and drive manufacturers bring their present and emerging test equipment requirements to Danaher Motion. We offer a standard spindle with process speed up to 30,000 rpm; the lowest AEM in the industry; low encoder jitter; and a conductive path that meets the requirements of MR and GMR head testing.



Solution: The Revolution™ Spindle

We offer two high speed instrument spindles - Revolution XL and Revolution XLS - to the Data Storage industry that meet all production testing and R&D testing requirements. Danaher Motion has the ability to customize our spindles for specific customer application. We deliver high quality, air bearing spindle performance in a crash proof spindle with a lifetime warranty.



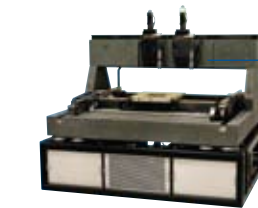
Integrated XYZ Mechanical Bearing Gantry



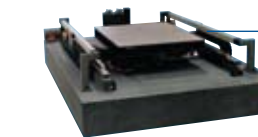
High Vacuum XY Stage



Digital Imaging Application



Triathlon XY Stage with Dual Z Axes



Large Panel Planar Air Bearing

Custom Stages & Systems - Innovation in Design

Danaher Motion is the proven, custom solution provider in the precision positioning industry.

A significant part of our business is the design and manufacture of specialty positioning systems to meet our customers' specifications and requirements.

Our years of custom design work experience, combined with the creative talents of our Engineering team, enable us to provide cost-effective and timely solutions to tough challenges – from initial conceptualization, to system acceptance testing, to delivered systems. We welcome the challenge of solving your advanced positioning requirements.

We have successfully provided solutions for thousands of high-end positioning applications, including assembly and inspection operations, to a broad range of OEM and end-users. Many of these applications have been in cleanroom or high-vacuum (1 x 10⁻⁶ torr) environments.

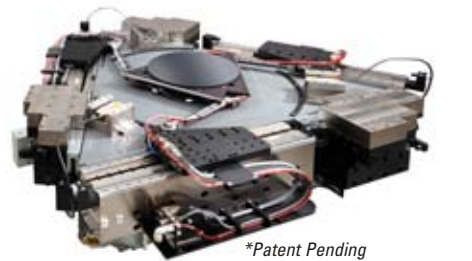
Our custom systems capabilities leverage:

- Four decades of innovation
- Unmatched application knowledge
- A tradition of OEM focused partnerships
- Leading-edge technology
- Unsurpassed customization expertise
- The global support structure of Danaher Motion

Semiconductor Market Highlight

Semiconductor equipment manufacturers utilize Danaher Motion's experience and solutions for their motion control requirements. This Air-Bearing, sub-micron resolution, dual axis positioner is used in semiconductor applications.

Semiconductor OEM's realize shortened tool development times, increased efficiency, higher throughput, and better performance systems that deliver higher wafer yields with Danaher Motion solutions.



*Patent Pending