



Precision Motion Systems

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Since 1997 Primatics, Inc. has been delivering high precision motion systems for industry leaders across the globe.

Motion Solutions

Primatics produces standard and custom high precision motion products. These are used in a variety of industries for applications ranging from inspection and metrology to precision assembly of microelectronics and consumer products.

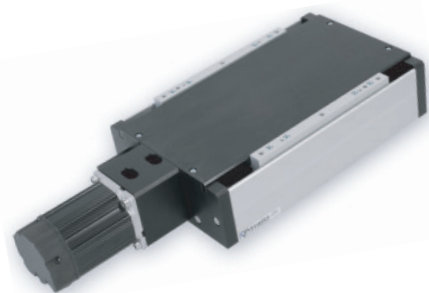
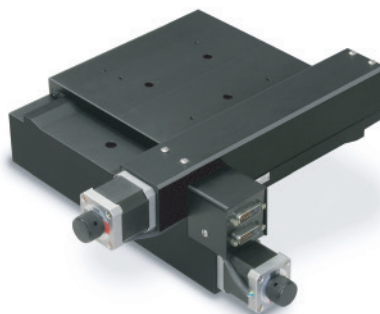
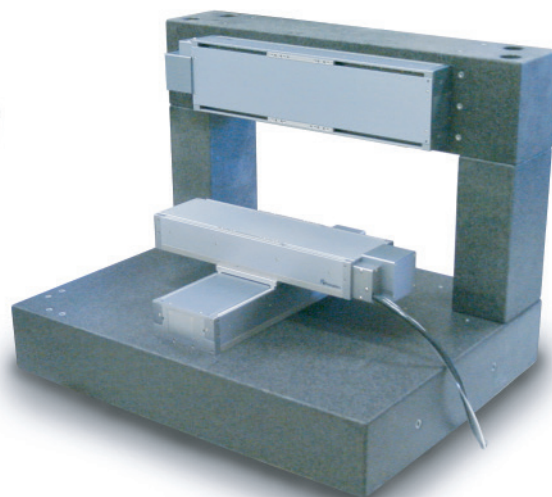
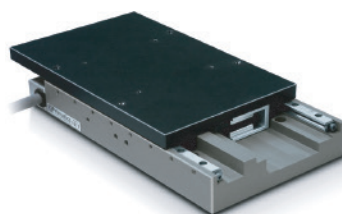
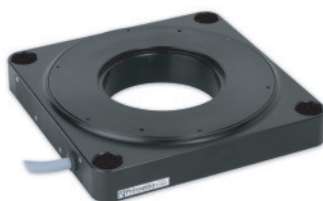
Many standard products can be tailored to specific requirements through configuration options. If requirements are more specialized, a customized product or a custom design may be the best solution.

Whether it's a single axis of motion or a complex multi-axis mechanism with precision support structure for use in a cleanroom, Primatics offers solutions for all motion tasks.



Industries & Applications

- Additive Manufacturing
- Aerospace
- Analytical Instruments
- Consumer Electronics
- Data Storage
- Imaging
- Laser Machining
- Microelectronics Assembly
- Semiconductor
- Vision Inspection





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Primatics offers a variety of linear and rotary motion stages as standard products. Many of these are families that have a wide range of options for travel, precision, resolution and motor type.

Linear Travel



PLG Family

Linear travel to 800mm, precision ballscrew or linear motor drivetrains with internal encoders and cable management.



PCL50 & PCL65

Linear travel to 600mm, precision ballscrew drivetrain, NEMA23 motor mount.



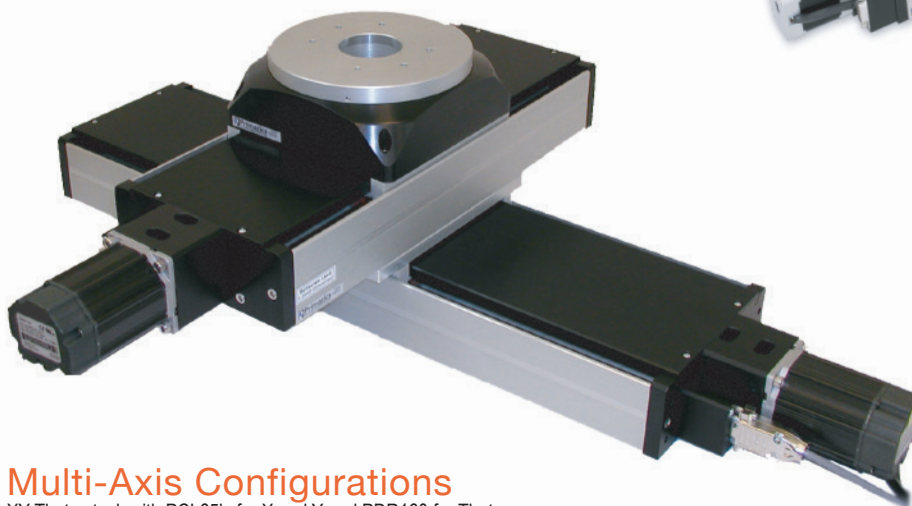
PXL33

Linear travel to 110mm, linear motor and linear encoder.



PCL40

Linear travel to 400mm, precision ballscrew drivetrain, low profile, several motor options.



Multi-Axis Configurations

XY-Theta stack with PCL65's for X and Y and PDR160 for Theta.



PCR32

Linear travel to 135mm, low profile, linear motor, linear encoder, cross roller bearings.



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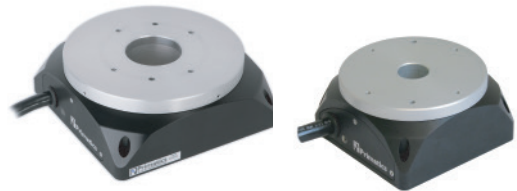
Multiple stages can be combined for multi-axis configurations such as XY or XYZ. These pages show examples of several standard product families.

Rotary Motion



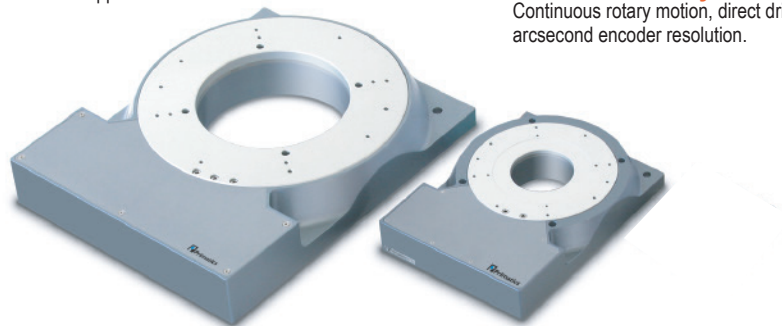
PRD75

Continuous rotary motion, small size, belt drive with stepper or servo motor.



PDR Family

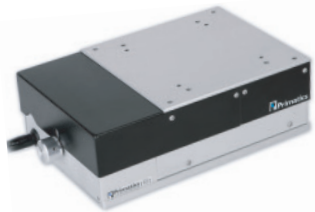
Continuous rotary motion, direct drive servo motor with sub-arcsecond encoder resolution.



PLR Family

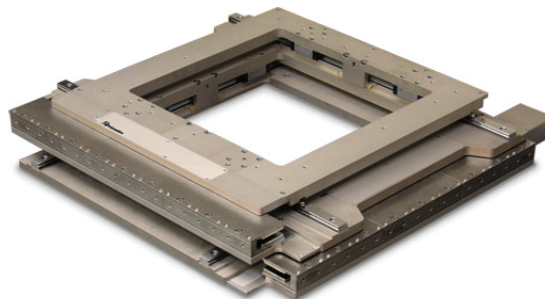
Limited travel rotary stage, high stiffness, high payloads.

Specialty Motion



PZA25

Vertical elevator stage, 25mm travel, integrated servo motor and encoder.



POF115

XY linear stage, linear motor drivetrain with center aperture for bottom side access to payload



When performance or features are not met by a standard product, a Custom Design is an efficient and cost effective alternative. Primatics can modify a standard product to add features, or create a completely custom product to your specifications.

What Is Custom Design?

Standard products for linear and rotary motion are intended cover a wide range of applications. Even with many configuration options, specific requirements may not be well met by a standard item. A Custom Design results in a product that meets **all** of the requirements for a specific application.

Why Custom?

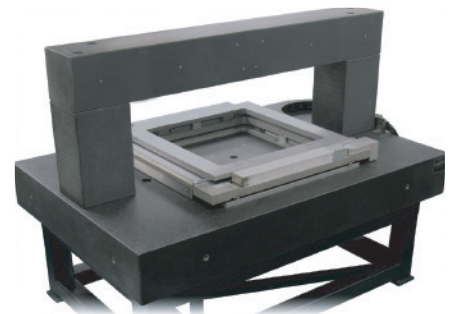
There are generally four reasons to consider a Custom Design:

- Specific Features – include the features to optimize integration of the product into your application.
- Improved Performance – optimize for specific performance through design or component selection.
- Reduced Price – pay for only what your application requires rather than a one-size-fits-all product.
- Competitive Advantage – have a unique solution that is not readily replicated by your competitors.

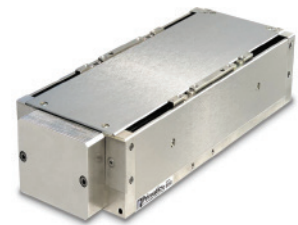
Why Primatics?

Primatics has expertise and experience developed over many standard and custom products and projects. This expertise extends beyond technologies and component selection to include best practices for manufacturing, assembly and verification processes.

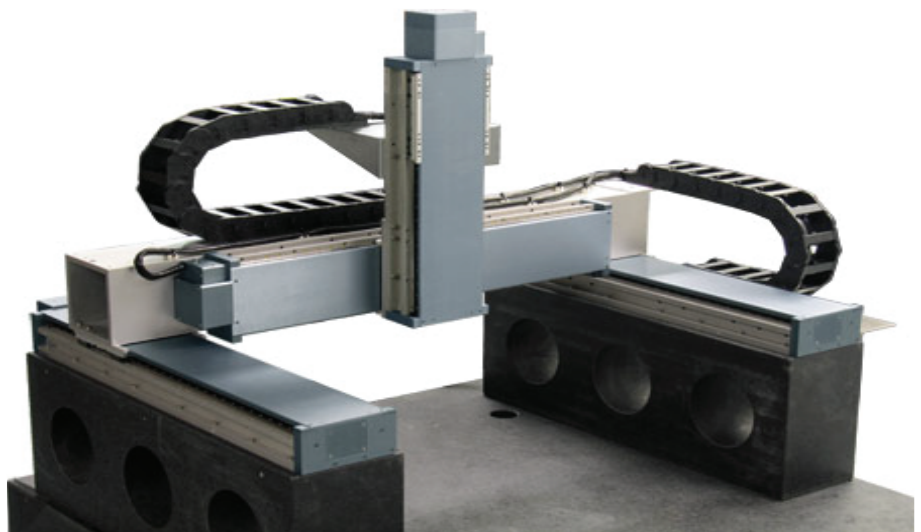
We can deliver cost effective solutions, even at low volumes.



Custom XY with center aperture on granite structure



PLG110 with custom electroless nickel finish



XYZ gantry on custom granite structure



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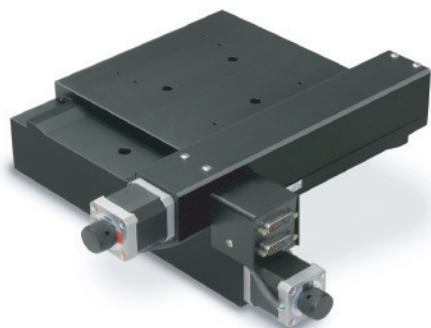
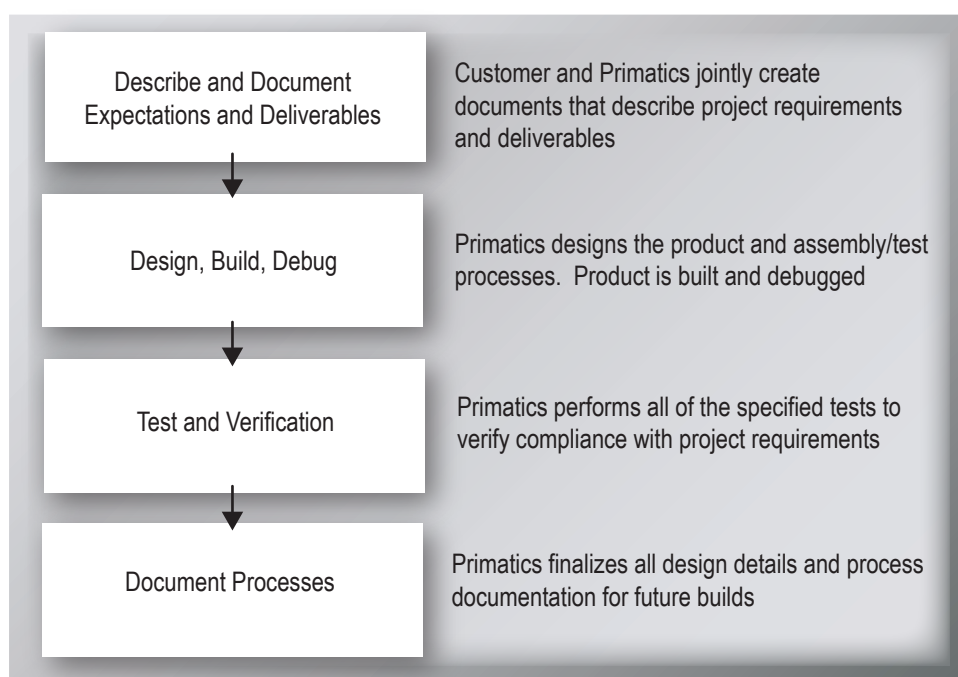
Primatics has developed Custom Designs for one-of-a-kind complex machines and for high volume OEM products. We are able to pull information from these many projects to accurately predict the performance of new projects.

What Is The Process?

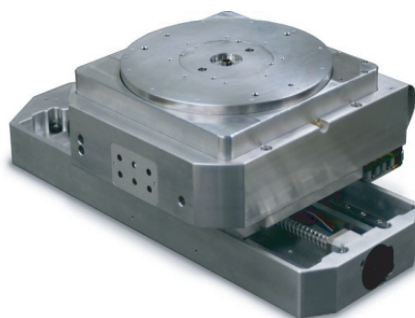
The flowchart (right) shows the basic four step process Primatics has developed for Custom Designs.

How Do I Get Started?

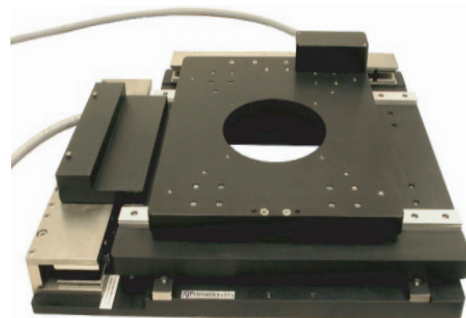
The success of a custom project is highly dependent on the ability to accurately and completely describe project requirements. Start by listing the technical requirements of the product and include business issues such as regulatory compliance, product life cycle management, service and support strategies and IP ownership. Contact us and we will work with you to develop a document to represent the project and deliverables.



Low profile XY stage with stepper motors for microscope



XYZ-Theta stage for high vacuum operation



Compact XY linear motor stage with center aperture for inspection



Published specifications for all products are based on measured performance, not component datasheets. All products are tested to assure quality and adherence to specification.

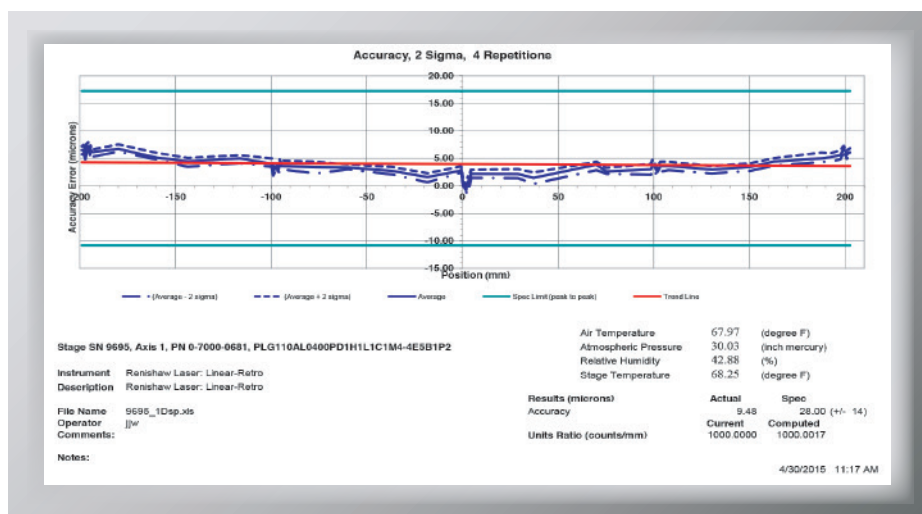
Metrology Testing

High precision motion systems require high precision measuring equipment for testing and verification. Primatics employs a variety of instruments including laser interferometers, optical autocollimators, precision levels, specialty encoders, and a variety of contact and non-contact sensors. Assembly and testing is performed in temperature controlled workrooms using automated data collection.

We have a solid reputation for dependability and performance. Engineers from around the world trust Primatics when they need complex solutions and on-time delivery.

Test and Verification

All Primatics products are subjected to a battery of tests to verify compliance with specifications and other requirements. Test data for standard products are included with each product. Specialized test reports are often used with custom products. Test data is also used to measure quality of our production processes. This has enabled Primatics to improve published specifications based on actual data. With a vast amount of archived test data from various products, components and configurations, Primatics can also reliably predict the performance of custom projects.





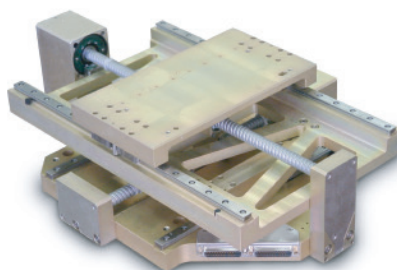
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Primatics offers standard and custom products for special environments such as cleanrooms and operation in vacuum.

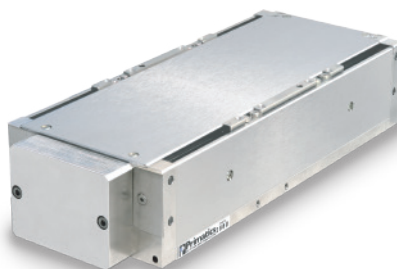
Vacuum Environments

Precision motion in vacuum is found in many applications for analytical instruments, semiconductor equipment, and aerospace projects. Components and materials must be carefully selected for vacuum compatibility to prevent outgassing of unwanted compounds. Designs and assembly processes must eliminate sources of contaminants. Even packaging the finished product must be engineered to assure integrity of the vacuum preparation.

Many of the standard products can be prepared for low and medium vacuum environments. Custom designs are typically necessary for high and ultra-high vacuum environments.



Custom XY for high vacuum environment. Unique configuration has stationary motors for improved heat conduction



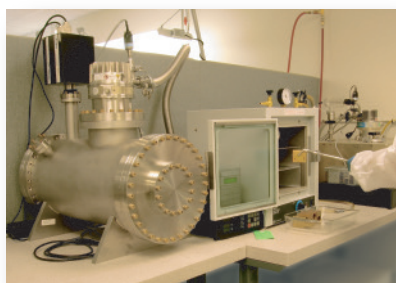
PLG110 with custom electroless nickel finish

Cleanroom Environments

Automation in cleanrooms is used in many industries such as semiconductor, pharmaceuticals, microelectronics, and aerospace. Primatics offers options to prepare many standard product stages for operation in cleanrooms to ISO 5 and better. Many custom mechanisms have been developed specifically for ISO 4 and better. Components and materials such as lubricants are specifically selected for cleanroom compatibility. Special assembly processes and packaging assure the mechanisms are clean and ready for use upon arrival.



Automation in cleanroom



Vacuum Oven and Vacuum Chamber with RGA Analyzer



Primatics motion systems include a commitment for Service, Support and Quality. Primatics is determined to deliver high performance products and complete customer satisfaction.

Customer Service

At Primatics customer service is a culture, not a task. It begins before the sale by understanding project requirements. It continues during the sale by monitoring schedules and commitments to deliver products on time. It lives on after the sale with support and service as necessary.

Positioning equipment is often on the production line where downtime is expensive. Primatics commits to answering all inquiries as quickly as possible. Should a product need service, turn-around is typically measured in days.

Quality

Primatics has implemented a world class quality system to assure products perform as specified and provide a reliable service life. This is integrated into all parts of our business to yield on-time delivery at a great value.

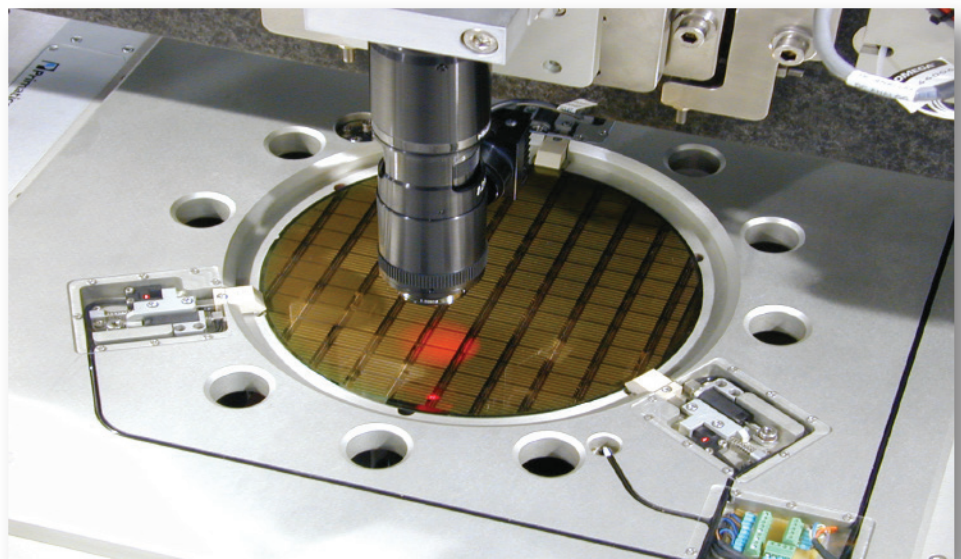
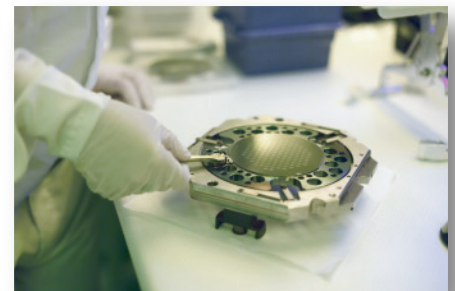
Contact Us

For information about our products visit our website at primatics.com. There you will find datasheets, manuals, CAD drawings, and other helpful information.

Can't find what you need?

Email sales@primatics.com,
or service@primatics.com.

If you prefer to call, you will reach us at:
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