Leading the World in Rotary Measurement Since 1940
Leading manufacturers from aerospace, automotive, power generation, machining, scientific and general engineering industries around the world are investing in quality British manufacturing and engineering.

RPI are continuously expanding our global reach with distributors in Europe, Asia and North, Central and South America.

To find your nearest distributor visit: www.rpiuk.com/contact/distributors-network

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sales@rpiuk.com
www.rpiuk.com
About Us

Specialists
Rotary measurement is what we know and do best. We design, develop, manufacture, service and calibrate all our own products to deliver solution driven devices into aerospace, power generation, dimensional metrology, scientific and advanced engineering industries all over the world.

Rotary Innovation
We have a passion for innovation and problem-solving. An on-going program of design and development continually enhances our range of circular geometry and angular positioning products. This is why our advanced air bearing technology allows us to measure extremely large components to sub-micron accuracy and our Quadrant range is designed to totally optimise CMM inspection.

Engineering Heritage
Since the 1940’s, we have developed and acquired over 75 years of expertise in the rotary measurement field which means our customers can benefit from decades of experience in evolving highly accurate, application specific rotary devices.

Leading Supplier
We are the world’s largest manufacturers of rotary devices with an install base of over 2530 systems being used for applications that include CMM, circular geometry, calibration, general metrology and scientific.

Reputation
We are a trusted by our customers to deliver an exceedingly dependable service with products that have a service life measured in decades not just years. Some of which are still going strong three decades later!
"You know a company by the companies it keeps"

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WORLD SENSING  | NASA  | DELTA  | Nikon  | Mitutoyo  |
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High Precision Angular Positioning, Calibration and Geometry Inspection

Ultra precise rotary tables intended for fine inspection, metrology and test applications.

**Typical applications include:**
- Calibration of optical components and devices.
- Manufacture and calibration of precision polygons.
- Angular calibration of precision instruments such as tilt metres, inclinometers, encoders, indexers, gyroscopes and guidance systems.
- Direct integration with 3rd party machine or via our Axia motion control system.
- Precision angular positioning of large and heavy components.
- Fourth axis for precision Cylindrical Form Measuring Machines.

**Why choose RPI?**

1. **Incredible Accuracy** – Our range of angular accuracy and repeatability offers a positional capability of 1µ to 10µ at a radius of 200mm significantly reducing your measurement uncertainty while assuring part quality and improving your process repeatability and reproducibility.

2. **Very High Stability** – The high resolution closed loop drive ensures that your part remains within 0.00005° of where you sent it regardless of external influences.

3. **Extensive Load Capacity** – From the smallest electronic components to the largest mechanical assemblies LabStandards load capacity allows for single or multiple components to be tested in a single set up significantly improving throughput and efficiency.

4. **Superior Durability** – Intelligent designs robust for almost any environment while maintaining performance normally reserved for the standard labs require extremely low maintenance and return a service life measured in decades.

5. **Flexible Configuration** – The LabStandard rotary table is multi-talented and can be set up both vertically and horizontally. Our cleverly designed fixturing interface offers total versatility as standard.

6. **Simple Operation** – Forget mindboggling operating systems, LabStandard is run on the intuitive ArcMotion software with the option to operate remotely with your phone or tablet using our handy app. Reduce your process times with the built in step and repeat function for easy sequencing and positioning of your part.
Which product is right for you?

LabStandardAIR

The LabStandardAIR has been designed as a “Contact Free” system and eliminates features, which may detract from achieving the optimum rotational performance. The rotating elements are supported on super high precision, air lubricated, hydrostatic bearings and are not subject to disturbances associated with gear drives.

Measurement Capacity:
- Axxia power driven axis
- Sizes Ø300mm and Ø500mm
- Load capacities up to 500kgs
- Zero backlash drive
- Angular accuracy 2 arc seconds
- Angular repeatability 0.5 arc seconds

LabStandard

Designed for horizontal and vertical applications with self-locking worm gearing and a high accuracy angular encoder ensures sensitivity and fine positioning for metrology and precision testing.

Measurement Capacity:
- Horizontal or vertical applications
- Sizes Ø250mm, Ø300mm, and Ø400mm
- Overall height 225mm (axis vertical)
- Centreline height 240mm (axis horizontal)
- Load capacities up to 1,000kgs
- Load moment up to 500Nm
- Powerful pneumatic clamp (optional)
- Angular accuracy 2 arc seconds
- Angular repeatability 0.5 arc seconds
2 axis design for rotary tilting applications with self-locking worm gearing and a high accuracy angular encoder ensures sensitivity and fine positioning for metrology and precision testing.

**LabStandardDUO**

Measurement Capacity:
- 360° Rotary and -10° to +180° tilting axis
- Sizes Ø250mm, Ø300mm, and Ø400mm
- Overall height 225mm (axis vertical)
- Centreline height 342mm (axis horizontal)
- Load capacities up to 175kgs
- Load moment up to 300Nm
- Powerful pneumatic clamps (optional)
- Angular accuracy 2 arc seconds
- Angular repeatability 0.5 arc seconds

**GeoOrdinate**

The GeoOrdinate has been designed specifically for the inspection of large and heavy components and is fully compatible with any shop floor environment whilst maintaining world class accuracies more commonly seen in the standards laboratory.

Measurement Capacity:
- ArcMotion power driven axis
- Sizes Ø400mm, Ø600mm, Ø800mm, Ø1000mm and Ø1500mm
- Load capacities up to 7,000kgs
- Zero backlash drive
- Angular accuracy 2 arc seconds
- Angular repeatability 0.5 arc seconds
Integrated Turbine Rotor Measurement and Assembly Platforms

Improve productivity and achieve higher levels of quality by reducing inspection times and the need for costly tearowns due to inefficient rotor assembly.

Typical applications include:

- Measure large circular parts such as slewing bearings and optical assemblies for all makes and sizes of aircraft engines and industrial gas and steam turbines.
- Monitor Electrical Runout (ERO) of large rotating shafts.
- Calculate circular geometry including roundness, eccentricity, diametral and planar runout, flatness and parallelism.

Why choose RPI?

1. **Fully Automated** – A motorised axis improves stability and reduces human error resulting in gauge repeatability and reproducibility (Gauge R&R) improvements of 10 x for runout and 3.5 x for concentricity measurements over manual systems.
2. **Extensive Range** – Our product range covers all aircraft engine parts from 20 - 5000kg to the largest land-based gas turbine disks weighing 15,000kgs and above.
3. **Widespread Adoption** – We are experts in the measurement of rotors and disks with hundreds of installations worldwide.
4. **The Full Picture** – We give you 4 x more inspection data collected than the competition, meaning you can truly understand the shape of your component parts and assemblies.
5. **Fully Optimised Rotor Assembly** – Our IntelliStack software is designed to optimise rotor assembly for minimum runout or un-balance or export our inspection data directly to your own stacking software.
6. **All Inclusive** – Full control to change and create your own inspection templates, as well as the flexibility to share inspection data with your customers and suppliers to enable decisions to be made quickly.
Which product is right for you?

**iMAP**

iMAP is the definitive system for productivity improvement in turbine rotor assembly for large volume and heavy loads such as passenger jets and gas turbines.

**Measurement Capacity:**
- Maximum measurement volume up to Ø3,600mm x 6,000mm
- Maximum load capacity up to 35,000kgs
- Motorised axis

**GeoSpin**

GeoSpin has been specifically developed for the measurement and assembly of smaller engines in the aerospace industry, such as short-haul and business jets.

**Measurement Capacity:**
- Maximum measurement volume up to Ø1,600mm x 2,400mm
- Maximum load capacity up to 1,500kgs
- Manual spin (optional power spin)

Both iMAP and GeoSpin deliver the following features:

- 2, 4, or 8 measurement channels
- Up to 4000 data points collect per surface
- Inspection time less than 2 minutes
- Measure interrupted surfaces
- 10x improvement in Repeatability and Reproducibility in runout measurements and 3.5x concentricity measurements.

- Write your own inspection templates
- IntelliProbe Technology corrects for extreme setup errors
- IntelliStack™ Advanced stacking software for predictive modelling of multi-part rotor assemblies.
- Free Viewer for offline analysis and reporting
- PDF Report Generation
Manual Spin Air Bearing Rotary Table for Optimal Circular Geometry Inspection

Inspect circular components in a shop floor environment whilst maintaining world class accuracies more commonly seen in the standards laboratory.

Typical applications include:
- Measurement of large round parts such as slewing bearings, aero engine components and optical assemblies.
- Measure circular geometry including roundness, eccentricity, diametral and planar runout, flatness and parallelism.

Why choose RPI?

1. **Extensive Range** – Our range of air bearings combine sub-micron accuracy with optimum rotational performance in a range of sizes from Ø300 to Ø1500mm up to a maximum load of 12000kgs.

2. **Basefloat** – Air pads in the base enable the rotary table to glide easily over flat level surfaces making repositioning simple and allowing better use of your working area.

3. **Widespread Adoption** – Our products have been adopted by the world’s leading aerospace and energy companies.

4. **International Support** – World-wide installations supported by our expert service team.

5. **Superior Durability** – Intelligent designs robust for almost any environment while maintaining performance normally reserved for the standard labs require extremely low maintenance and return a service life measured in decades.

Options and Accessories

- Anti-vibration granite base
- Column units for precise positioning of your measuring devices
- Data collection software
Portable Circular Geometry Inspection Systems with ERO (Electrical Runout)

Runout inspection systems designed to inspect mechanical runout, electrical runout, and other circular geometry.

Typical applications include:
- Measure electrical and mechanical runout in-situ on a lathe, grinder, and balance machine or in V-blocks.
- Measure bearings, pumps and motors.
- Inspect compressor and turbine rotors, disks & shafts.
- Collect data for rotor stacking.

Why choose RPI?
1. Completely Portable - Simply move the system to the part for multiple on-machine inspections.

2. Measure Components ERO – Measure your components electrical runout with our inductive sensors.

3. Extensive Range – Available in a variety of configurations and can quickly adapt to measure the smallest aircraft engine parts to the world’s largest land-based gas turbine disks and rotors.

4. Widespread Adoption – We are experts in the measurement of rotors and disks with hundreds of installations worldwide.

5. Free Support Software – Share inspection data with your customers and suppliers via our freely downloadable AccuScan Viewer software to enable the correct decisions to be made quickly.
Additional Rotary Axis for High Precision Co-Ordinate Measurement Machines. All Quadrant products are ISO 10360 part 3 compliant.

Precision rotary axes specifically developed to increases the flexibility, productivity and efficiency of your CMM.

Typical Applications include:
- Increase your CMM’s application range and effective measuring volume, flexibility, productivity and efficiency. Significantly reduce inspection times.
- Simplify the measurement of symmetrical or prismatic components such as camshafts, crankshaft, gears and aircraft engines.
- Scanning or touch probe applications.
- Simplifying your measuring procedures and part programming.
- Stylus configurations become easier with fewer stylus systems required.
- Travel paths are shorter leading to reduction in temperature influences.

Why choose RPI?

1. **Simple Integration** – Direct to host CMM controller or 3rd Party interface via RPI’s QuadMotion controller.

2. **Extensive Range** – Sizes range from Ø200mm to Ø4000mm and can be used horizontally or vertically offering maxim flexibility and versatility.

3. **Compact Design** - Specifically designed with the lowest possible profile to reduce the impact on your CMM’s measurement volume.

4. **Pioneers** – In it from the very start! First installation carried out at Ferranti in 1977.

5. **Widespread Adoption** - Our products have been adopted by world’s leading CMM manufacturers.

6. **International Support** – World-wide installations supported by our expert service team.
Which product is right for you?

**QuadSlimLine**
Low profile rotary table with an extensive measurement range where typical applications include inspection of rotors, disks, blisks and gears.

**Measurement Capacity:**
- Sizes Ø400mm, Ø600mm, Ø800mm, Ø1000mm and Ø1500mm
- Overall height 150mm, 160mm and 200mm
- Load capacities up to 7,000kgs
- Zero backlash drive
- Angular accuracy 2 arc seconds
- Angular repeatability 0.5 arc seconds

**QuadDualPurpose**
Versatile system with the option to mount parts both horizontally and vertically for inspection, such as large aero engine blades from the front of the engine.

**Measurement Capacity:**
- Horizontal or vertical applications
- Sizes Ø250mm, Ø300mm, and Ø400mm
- Overall height 225mm (axis vertical)
- Centreline height 240mm (axis horizontal)
- Load capacities up to 1,000kgs
- Load moment up to 500Nm
- Powerful pneumatic clamp (optional)
- Angular accuracy 2 arc seconds
- Angular repeatability 0.5 arc seconds
QuadProfile

The smallest rotary table in the Quadrant range that delivers high speed measurement of smaller parts such as inner engine blades and gears.

Measurement Capacity:
- Size Ø200mm
- Overall height 175mm
- Load capacities up to 100kgs
- Rotation speed 10 rpm
- Zero backlash drive
- Angular accuracy 2 arc seconds
- Angular repeatability 0.5 arc seconds

QuadMatic

Ultra low profile, granite integrated rotary table where maximising measurement volume within the CMM is of utmost importance.

Measurement Capacity:
- Sizes Ø400mm, Ø600mm, Ø800mm, Ø1000mm and Ø1500mm
- Overall height 1mm (submerged in granite)
- Load capacities up to 7,000kgs
- Zero backlash drive
- Angular accuracy 2 arc seconds
- Angular repeatability 0.5 arc seconds

QuadUniversal

For automotive applications where ultimate precision may not be required.

Measurement Capacity:
- Size Ø600mm
- Overall height 130mm
- Load capacities up to 100kgs
- Zero backlash drive
- Angular accuracy 6.5 arc seconds
- Angular repeatability 0.5 arc seconds
Service and Support

RPI provides a comprehensive factory or on-site after sales service and calibration.

Our calibration capabilities include;

- Rotation Error
- Parallelism
- Angular Positioning Accuracy
- Radial Runout of Table Axis
- Axial Runout of Table Axis
- Coning Of Table Axis
- Concentricity of Centre Bore
- Squareness of Table Top Face
- Air Bearing Lift Off Test
- Flatness of Table Top Surface

For further information please contact your local distributor or our Service Manager