Brochure

RENISHAW
apply innovation™

MP250 – strain gauge probe for grinding applications

Unrivalled 3D performance
to allow probing of contoured surfaces

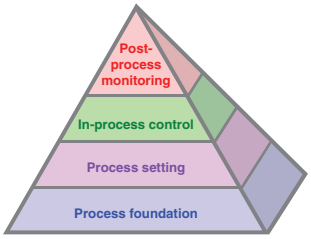
Superior accuracy
with ultra-low pre-travel variation

Robust design
for harsh environments

MP250 – innovative process control

Tackle process variation at source, and reap the rewards

The higher the degree of human involvement in the manufacturing process, the higher the risk for error. Automated in-process measurement using Renishaw probes can help ***eliminate the risk.*** The Renishaw MP250 probe system can facilitate the following measures for enhanced management of your production, leading to an ***increase in your profits.***



Process setting

Automated on-machine measurement of component position and alignment.

- Eliminate costly fixtures and manual setting errors
- Automatically update machine offsets for accurate positioning and alignment
- Introduce new processes quickly and respond to new customer needs
- Set up faster, improve quality and reduce scrap

In-process control

Automated component measurement on tool and cutter grinding, wire erosion and wheel erosion machines.

- Compensate for environmental and machine conditions
- Update machine parameters to adjust the process mid-cycle
- Improve process capability and traceability
- Reduce non-productive time and scrap
- Increase productivity and profits

Post-process monitoring

Verification of component conformance prior to removal from machine.

- Reduce off-machine inspection time and costs
- Rapid, traceable reporting of part conformance to specification
- Increase confidence in manufacturing process

For more information on the Productive Process Pyramid™, visit **www.renishaw.com/processcontrol**

MP250 – robustly engineered for performance in the harshest environments

Designed for grinding applications

A double diaphragm sealing allows the MP250 probe to function in abrasive particle-laden environments often found in grinding machines – even in these conditions, the probe maintains exceptionally reliable measurement over a long service life.

Withstand machine vibration

Superior performance is sustained even when the probe is subjected to high levels of vibration – often experienced during turning and grinding operations. If machine vibration is a problem, the probe can be switched to a more vibration-resistant configuration. Lower-latency configurations are also available, should a quicker probe response time be required.

Can be used with custom styli

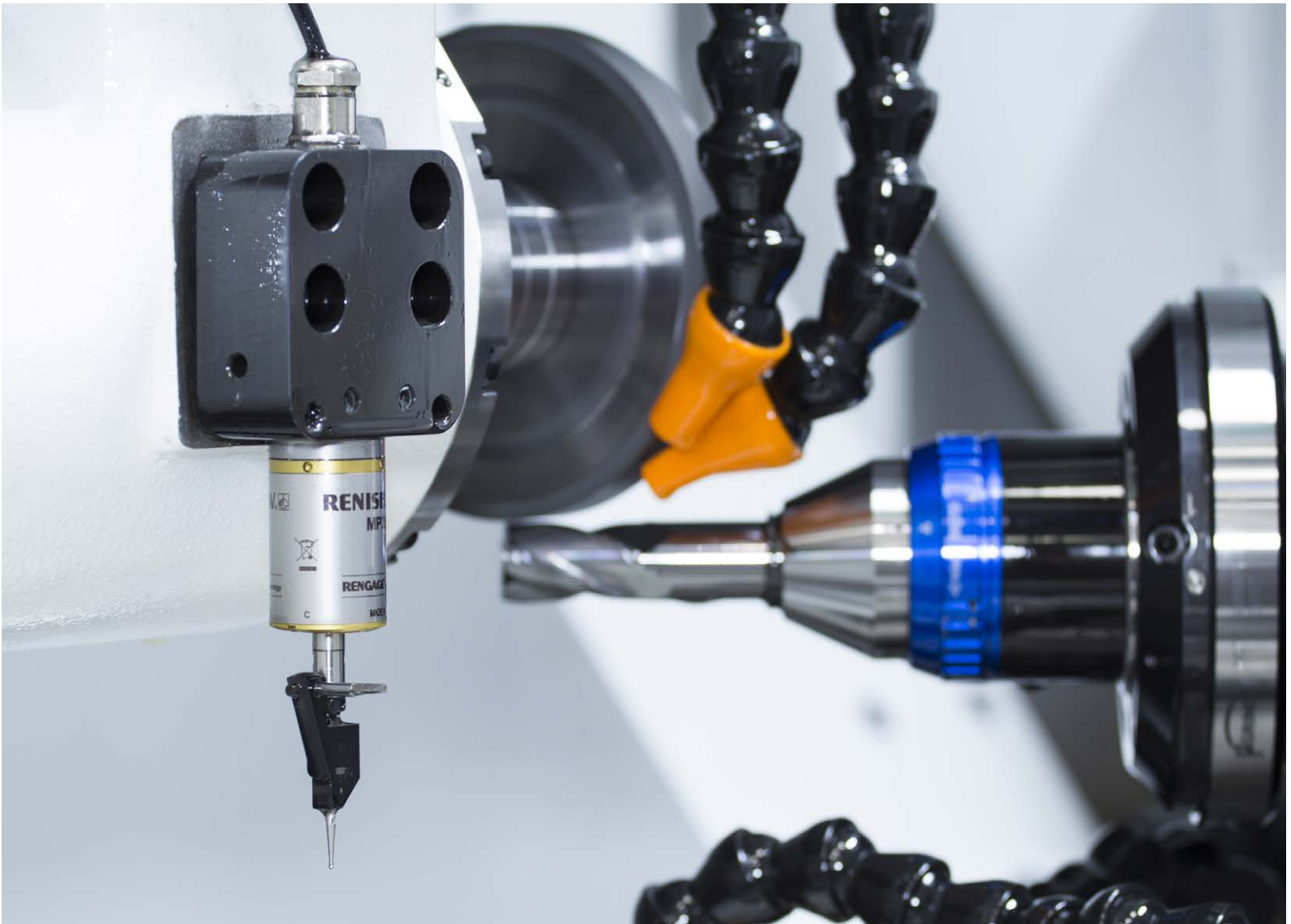
Long and heavy custom styli – often required for tool and cutter measurement on grinding machines – can be used with the MP250. RENGAGE™ technology allows the probe to maintain outstanding accuracy – ensuring low pre-travel variation, even when used with large styli.

Compact design for restricted spaces

The MP250 is only 25 mm in diameter – being so small allows for better access in machines where space is at a premium.

Resistance to interference

A hard-wired connection provides resistance to interference – making the system perfect for use in harsh environments.



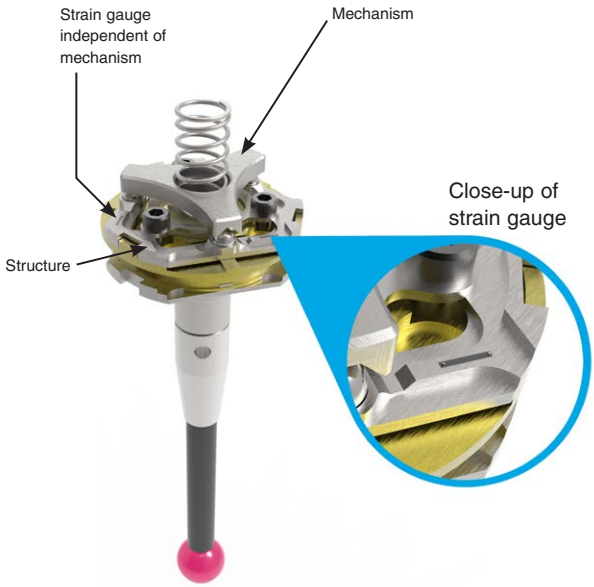
MP250 – unrivalled combination of flexibility and accuracy

3D measurement with RENGAGE™ technology

RENGAGE technology, as featured in the MP250 probing system, combines proven silicon strain gauge technology with ultra-compact electronics – allowing on-machine probing systems to achieve outstanding 3D measurement capability and sub-micron repeatability.

As the strain gauges are independent from the kinematic mechanism, probes with RENGAGE technology have an ultra-low trigger force – providing exceptional measurement accuracy as well eliminating the possibility of surface and form damage.

For more information regarding the superior 3D performance of RENGAGE probes, **see www.renishaw.com/rengage**



MP250 – system components

HSI-C interface

A hard-wired transmission interface that conveys and processes signals between the inspection probe and the CNC machine controller. Different probe operating configurations can be selected by a switch on the interface.

FS10 / FS20 socket

A socket that provides a robust mounting position for the inspection probe and a fully screened, hard-wired connection between the inspection probe and the interface.

MP250 inspection probe

A 25 mm diameter touch-trigger inspection probe, equipped with RENGAGE technology for high-accuracy measurement.

Styli

A range of solid high modulus carbon fibre styli has been developed for use specifically with strain gauge probes. These styli are designed to minimise pre-travel variation and improve the accuracy of the probe. Specialised application-specific styli can also be used.

For further details, please refer to the *data sheet MP250 probe, Renishaw part no. H-5500-8200.*

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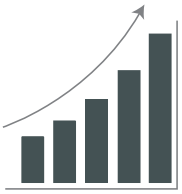
Probing pays with Renishaw

Optimise your cutting process



Ensure parts are machined "right first time".

Reduce scrap and rework

Set parts up to ten times faster than using manual methods.

Save time and money

Produce more parts reliably and accurately.

> Meeting current and future performance requirements for our products demands manufacture of ever smaller and more intricate parts that are consistently accurate to within 1 µm. Reliable set-up and measurements are therefore critical to this process and form the basis of our decision to use RENGAGE™ technology.
>
> **Flann Microwave (UK)**

The Renishaw advantage

At Renishaw, we enjoy an excellent reputation for offering strong support to our customers through a network of over 70 wholly-owned service and support offices in 35 countries.

Technical assistance

We supply technical assistance to all our global customers.

Support and upgrades

We provide a variety of support agreements bespoke to your individual needs.

Training

We offer standard and bespoke training courses to meet your requirements.

Spares and accessories

Buy spares and accessories online or obtain quotes for Renishaw parts 24/7.

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About Renishaw

Renishaw is an established world leader in engineering technologies, with a strong history of innovation in product development and manufacturing. Since its formation in 1973, the company has supplied leading-edge products that increase process productivity, improve product quality and deliver cost-effective automation solutions.

A worldwide network of subsidiary companies and distributors provides exceptional service and support for its customers.

Products include:

- Additive manufacturing and vacuum casting technologies for design, prototyping, and production applications
- Dental CAD/CAM scanning systems and supply of dental structures
- Encoder systems for high-accuracy linear, angle and rotary position feedback
- Fixturing for CMMs (co-ordinate measuring machines) and gauging systems
- Gauging systems for comparative measurement of machined parts
- High-speed laser measurement and surveying systems for use in extreme environments
- Laser and ballbar systems for performance measurement and calibration of machines
- Medical devices for neurosurgical applications
- Probe systems and software for job set-up, tool setting and inspection on CNC machine tools
- Raman spectroscopy systems for non-destructive material analysis
- Sensor systems and software for measurement on CMMs
- Styli for CMM and machine tool probe applications

For worldwide contact details, visit www.renishaw.com/contact

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