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High-accuracy encoders improve the surface finish capability of your machine...

In a direct-drive machine tool axis, the dynamic performance of the encoder directly affects the quality of workpiece surface finish. SiGNUM™ offers the lowest sub-divisional error (SDE) in its class with **tangential SDE** below **±0.06 arc second** (209 mm ring). Compare that to your current encoder.

In addition, SiGNUM™ eliminates mechanical hysteresis and backlash to improve repeatability yet is extremely easy to use.

Find out why the world's biggest names in grinding choose SiGNUM™. Go to www.renishaw.info/grinding

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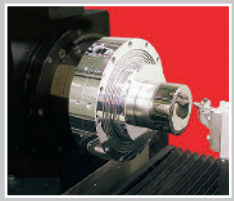
MP250 is the world's first strain gauge based inspection probe for grinding machines, using Renishaw's patented RENGAGE™ technology



SiGNUM™ encoders - exceptional signal purity and lowest SDE for better surface finish performance*

All Renishaw products are backed up by a worldwide team offering truly responsive global support

*Photo courtesy of Moore Nanotechnology Systems LLC

L-9517-9326

For worldwide contact details, please visit our main website at www.renishaw.com/contact

Part no. L-9517-9326-01-A

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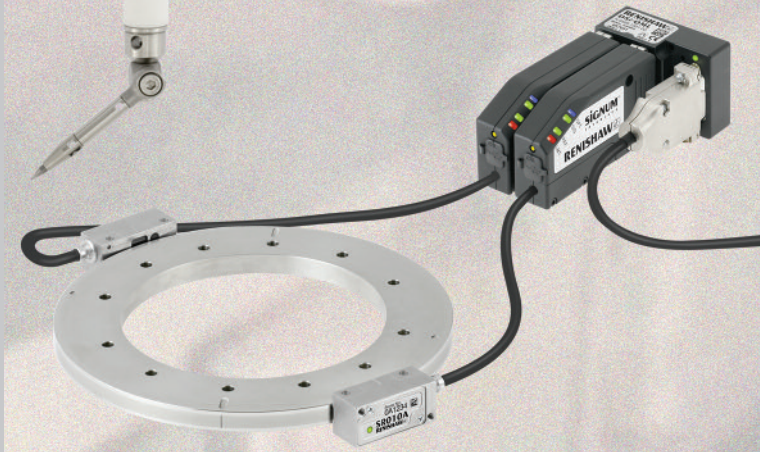
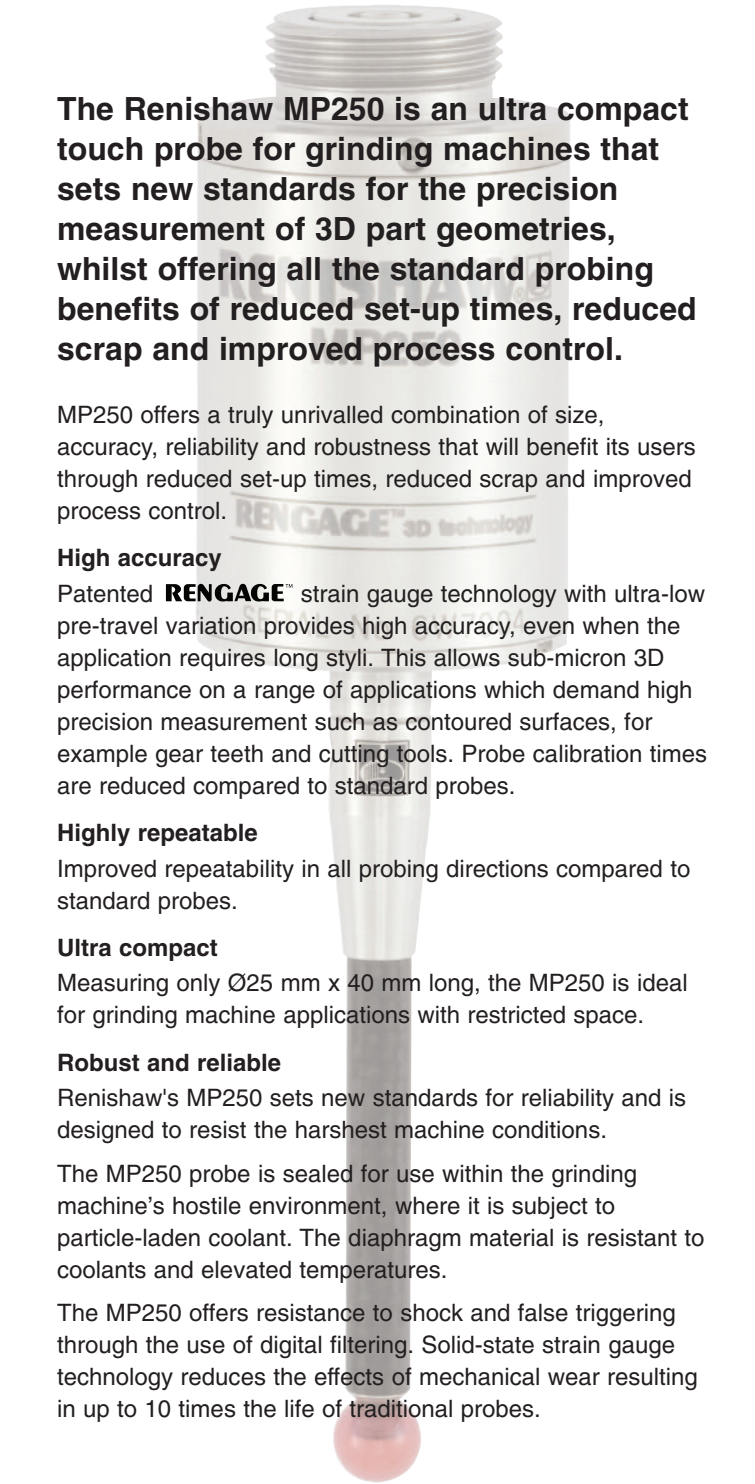
Redefine your grinding machine's performance...



- **MP 250 strain gauge probe**
- **REXM ultra-high accuracy encoder**



The Renishaw MP250 is an ultra compact touch probe for grinding machines that sets new standards for the precision measurement of 3D part geometries, whilst offering all the standard probing benefits of reduced set-up times, reduced scrap and improved process control.

MP250 offers a truly unrivalled combination of size, accuracy, reliability and robustness that will benefit its users through reduced set-up times, reduced scrap and improved process control.

High accuracy

Patented RENGAGE™ strain gauge technology with ultra-low pre-travel variation provides high accuracy, even when the application requires long styli. This allows sub-micron 3D performance on a range of applications which demand high precision measurement such as contoured surfaces, for example gear teeth and cutting tools. Probe calibration times are reduced compared to standard probes.

Highly repeatable

Improved repeatability in all probing directions compared to standard probes.

Ultra compact

Measuring only Ø25 mm x 40 mm long, the MP250 is ideal for grinding machine applications with restricted space.

Robust and reliable

Renishaw's MP250 sets new standards for reliability and is designed to resist the harshest machine conditions.

The MP250 probe is sealed for use within the grinding machine's hostile environment, where it is subject to particle-laden coolant. The diaphragm material is resistant to coolants and elevated temperatures.

The MP250 offers resistance to shock and false triggering through the use of digital filtering. Solid-state strain gauge technology reduces the effects of mechanical wear resulting in up to 10 times the life of traditional probes.

Innovations

The MP250 successfully combines the miniaturisation of the popular LP2 with the high accuracy RENGAGE™ technology of the MP700 and OMP400, which has been proven in thousands of machine tool applications worldwide.

Principal application

Work piece measurement and job set-up on tool and cutter grinding machines, wire erosion machines and wheel erosion machines.

The MP250 uses a hard-wired connection to the machine control via the specially designed HSI interface.

Dimensions:	Length: 40.5 mm (1.59 in) Diameter: 25 mm (0.98 in)
Weight:	65 g (2.3 oz)
Transmission type:	Hard wired transmission using the HSI interface
Sense directions:	Omni-directional ±X, ±Y, +Z
Uni-directional repeatability:	0.25 µm (10 µin) 2 sigma*
2D lobing in X, Y:	±0.25 µm (10 µin)*
3D lobing in X, Y, Z:	±1.00 µm (40 µin)*
Stylus trigger force:	XY plane 0.11 N (11 gf) 0.39 ozf ₮ +Z direction 2.20 N (220 gf) 7.91 ozf ₮
Stylus over-travel force:	XY plane – low force 0.45 N (45 gf) 1.59 ozf § XY plane – high force 0.9 N (90 gf) 3.17 ozf § + Z direction 9 N (900 gf) 31.8 ozf §

* Specification is for a test velocity of 480 mm/min (18.9 in/min) with a 35 mm stylus.

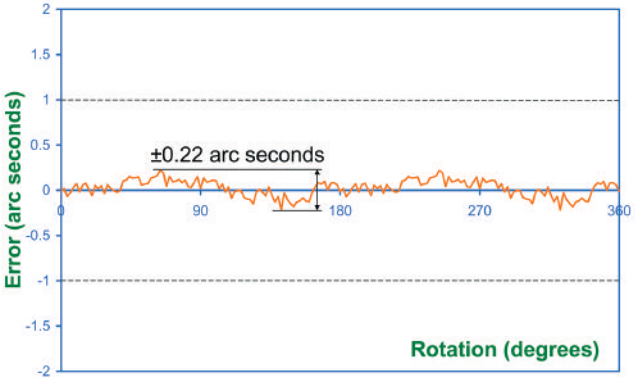
₮ Specification is for a test velocity of 30 mm/min (1.2 in/min) with a 35 mm stylus.

§ Specification is the maximum force with a 35 mm stylus and an XY stylus deflection of 15° and a Z stylus deflection of 6.5 mm

For further information, please visit www.renishaw.info/grinding

SiGNUM™ is the encoder of choice for precision machine tool and grinding applications…

The REXM ultra-high accuracy angle encoder offers a total **installed accuracy better than ±1 arc second** on 100 mm ring and a staggering ±0.22 arc second on a 183 mm REXM.



The **DSi (Dual SiGNUM™ interface)** combines 2 readheads to **compensate eccentricity and bearing wander** – it also outputs a unique programmable reference position – ***propoZ*** ™

- **IP64** 'recoverable' readhead
- Ultra-low cyclic error; **±30 nm SDE**
- **High immunity** to dirt, coolant, oil and dust
- Resilient to **high shock / vibration** environments
- Operation up to 85 °C and **4500 rev/min**
- Unique design eliminates mechanical '**reversal error**'
- **17 REXM** sizes from **52** to **417 mm**
- **19 RESM** sizes from **52** to **550 mm**
- **Resolutions** to 0.0038 arc second
- **Compatible** with industry-standard controllers
- **Established supplier** to grinding machine OEMs