

RM HA R

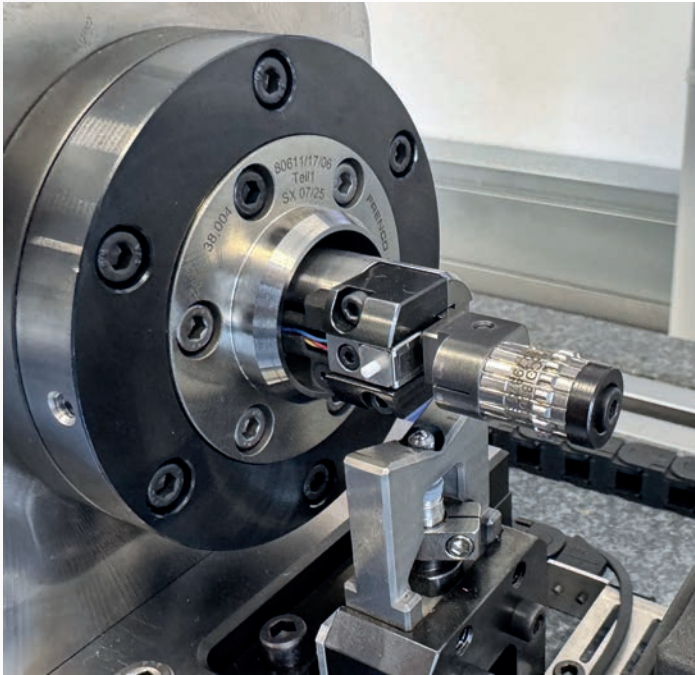
Horizontal Measuring System for Internal Gears

The universal rotational measuring system combines high precision, robustness, and speed, designed specifically for near-production use. It is ideal for measuring rotationally symmetric workpieces such as shafts, gears, threads, worms, or special gearings.

The system consists of three core components: the gear measuring device, a PC for evaluation, and a control measurement box. The measurement box not only converts the measurement signals but also manages axis movements, captures measurement data, and performs key control functions. Data evaluation is carried out on the PC using our RM Pro software, which visualizes and analyzes all measurement results.

During measurement, the displacements of radial slides or probes are recorded along with the rotation angle of the workpiece. The workpiece is rotatably mounted – either on a spindle with a chuck or between centers with a tailstock. Radially arranged measurement slides with integrated sensors are positioned against the workpiece.





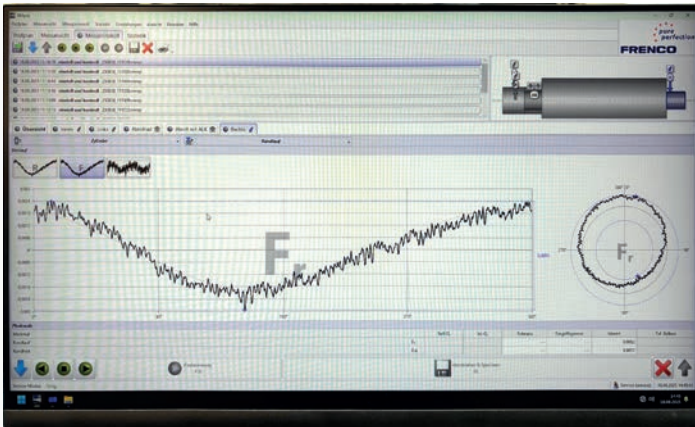
This universal rotational system measures both non-gear diameters and internal or external gears for size, form, and position. It precisely captures gear parameters such as runout, pitch, and pitch diameter, as well as threads, worms, and special gearings.

With various in-house manufactured test wheels, the system can quickly and accurately measure both spur and spline gears in a single rotation, capturing all measurement planes simultaneously.

User-friendly visualization provides a clear overview of all measurement results. The system also supports programming with intuitive graphical representations of the measurement task. Measurement features can be combined flexibly to include reference axes or to computationally eliminate alignment errors. Minimal residual errors, e.g., from test fixture or mandrel runout, can be corrected via intelligent pre-adjustment measurements.

System performance is continuously monitored using control parts, ensuring correct functionality in every measurement cycle.

Thanks to short cycle times, the system is ideal for integration into handling cells or automated production lines, enabling 100% inspection of critical features. Interfaces to higher-level control systems are provided for process control and direct export of measured values.



Device with test wheels and probes

- For internal and external gears and splines
- Enables measurements of diameters and bearing seats
- Output of concentricity, pitch and two-ball measurement, etc.
- Wide range of test wheels and probe carriages
- Workpiece clamping between centres or free-standing
- Automatic error correction for test wheels
- Temperature compensation for workpieces
- Max. head diameter: 230 mm; max. workpiece length: 750 mm
- Analysis using the FRENCO RM Pro software
- Reliable and fully automated spot-check measurements during production
- Can be combined with handling systems for 100% measurement
- Short cycle times of less than 1 minute
- Extremely robust, tried and tested over many years

FRENCO GmbH

Gear + Spline Technology

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