



MORE LIGHT

Opticline T3D

The multi-sensor solution for your optical shaft measuring system

Our Opticline measuring solutions offer you a wide range of evaluation options and numerous areas of application for shaft measuring. Thanks to the fast, optical, non-contact measuring principle, the measurements are extremely flexible, repeatable, and precise.

Technology

With the optional T3D tactile sensor, this excellent functionality can be expanded even further to a full multi-sensor solution:

- Tactile measurement of optically not detectable or additional features
- Measurable in a single measurement run on a measurement system
- Full flexibility for different measuring tasks thanks to interchangeable probe arms and fully-automatable probe arm changing
- Integrated automatic calibration function of the optical and tactile measuring system ensures long-term stability and maximum accuracy, even under harsh production environments
- Full combination of tactile and optical measurements to identify combined features

- Extremely simple programming within a few minutes thanks to Tolaris Optic measuring software optimized for worker self-inspection
- Complete measurement in seconds for maximum efficiency

Typical measuring tasks

- Grooves
- Bore and blind holes
- Runouts and total runouts
- Cam lobes
- Internal measurements on hollow shafts and wheels
- **New:** Gear measurement for splines and helical gears

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- NEW -

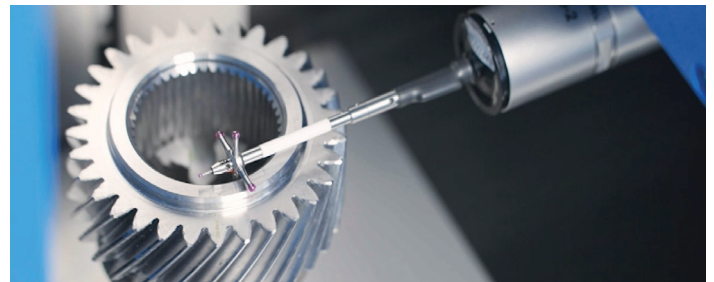
Gear measurement with Opticline T3D

With the integrated gear measurement on Opticline T3D systems, gear features can now also be measured quickly and flexibly in production. This opens up a wide range of possible applications for you:

- Complete measurements of all characteristics on a single system
- Monitoring of gearing parameters directly in production without additional process steps
- Diverse evaluation options according to common standards
- Tactile probing system with full 3D functionality enables probing of real workpiece elements in radial and axial directions
- Individual probe arm geometries and functions for the transformation of probe ball diameters
- Measurement of internal features through reliable, one-sided clamping concepts for workpieces

The gear measurement function with Opticline T3D enables you to measure and evaluate straight and helical internal and external gears for the most common features of gear measurement technology:

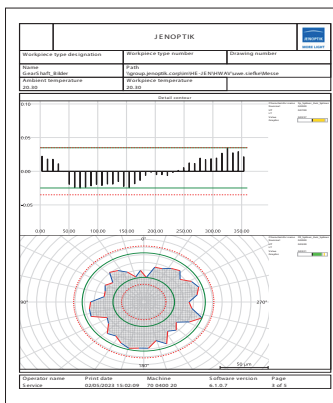
- Profile: F_α
- Helix: β
- Pitch: F_p, f_p, f_u
- Tooth thickness: M_{rk}, M_{dk}, W_k, s
- Diameter: d_a, d_f
- Radial runout: F_r, f_e



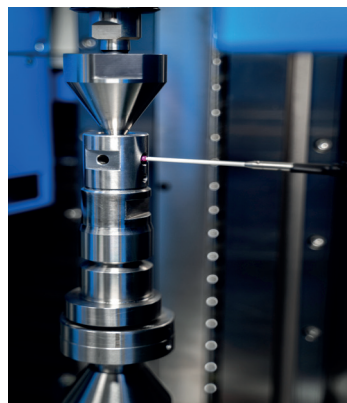
Measurement of internal splines

Your benefit

- Increased efficiency in quality assurance thanks to just one multi-sensor measuring system
- Comprehensive, high-precision and repeatable measurements according to standards through full 3D functionality
- More flexibility due to reduced variety of probe arms and set-up times for different measuring tasks on external and internal workpiece elements
- Individual automation options increase process reliability and reduce cycle times and the influence of uncertainty
- Cost reduction through fast and reliable measurements directly in production and savings in additional process steps and measuring devices



Protocol of the measurement results



Keyway measurement

Advantages

Fast – measurement within seconds

The Opticline T3D multi-sensor measuring system combines optical and tactile measuring technology in a single system. As a result, all features within a measurement process can be fully recorded in seconds. This helps you to achieve shorter cycle times and save costs for additional process steps or measuring systems.

Robust – Optimized for measurement directly in production

All Opticline measuring systems are designed for direct use in production thanks to a variety of integrated monitoring and compensation algorithms. Furthermore, due to individually scalable automation solutions, the systems can be operated with long-term stability and process reliability even under harsh production conditions.

The use of an Opticline T3D system increases your efficiency and expands the quality information directly in the production process even further.

Flexible – the 6 in 1 measuring system

Each optical shaft measuring system from Opticline enables you to reliably measure dimensions, contours, form and position as well as threads on rotationally symmetrical workpieces. With the additional T3D tactile probe system, the possibilities for measuring hidden component features such as undercuts or gearing are expanded even more. This allows you to make your process-oriented quality control significantly more effective, efficient and flexible using fewer measuring systems.