

Optical Measuring Machine for Barrel Inspection

TECHNO ID

A new way to measure the internal dimensions

The TECHNO ID demonstrates the next-generation approach to non-contact optical measurement for rifled barrels.

The Techno ID targets **axial mapping of the bore geometry**, **rifling profile**, and **roundness variations** for advanced quality control, R&D, and forensic applications.



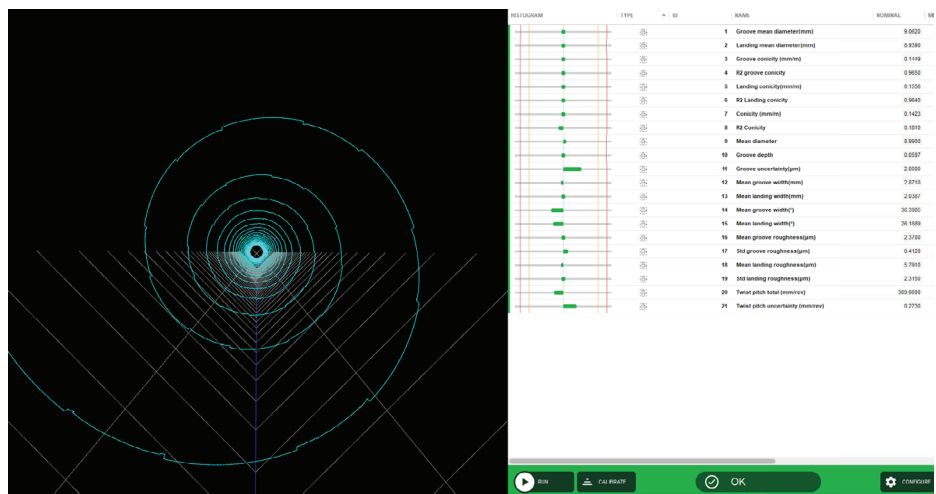
What it measures

| Parameter | What it means | Why it matters |
|-----------------------------|---|--|
| Grooves diameter | Distance between opposing grooves | Detects wear or deformation affecting bore size |
| Landing diameter | Distance between opposing lands | Identifies machining defects and can be used to measure wear over time |
| Groove Depth | Radial distance from Groove to Land | Evaluates bullet engagement and rifling integrity |
| Groove Pitch and Twist Rate | Longitudinal distance for one full rifling rotation | Verifies actual vs designed twist; critical for consistency |
| Bore Roundness | Deviation from perfect circularity | Detects ovalization and roundness |



Why it's different

- Non-contact measurement with high optical resolution
- All key parameters extracted simultaneously
- Continuous twist and groove tracking along the entire bore
- Digital reporting for traceability and data analysis



Practical benefits

- Early detection of machining or wear defects
- Validation of barrel design in R&D stages
- Forensic support through detailed geometric reporting
- Reduced rework and scrap through repeatable, non-destructive inspection
- Correlation of internal geometry with ballistic performance (in lab conditions)

Extending capability through OD measurement expertise

While the TECHNO ID focuses on internal bore inspection, its long-term potential is **strengthened by the proven outer-diameter (OD) measurement technology** developed in Vicivision systems. Our machines are widely recognized for their ability to capture external geometries with high repeatability, automation-friendly workflows, and fully digital reporting.

Integrating this OD measurement heritage with next-generation internal optical metrology sets the foundation for a future platform capable of inspecting both the inside and outside of a barrel in a single setup. Such unified measurement would enable full geometric characterization, from external concentricity and profile features to internal rifling and bore conditions.

This technology pathway positions the **ID TECHNO** as a **game changer**, enabling **comprehensive barrel metrology** with unmatched convenience and precision.