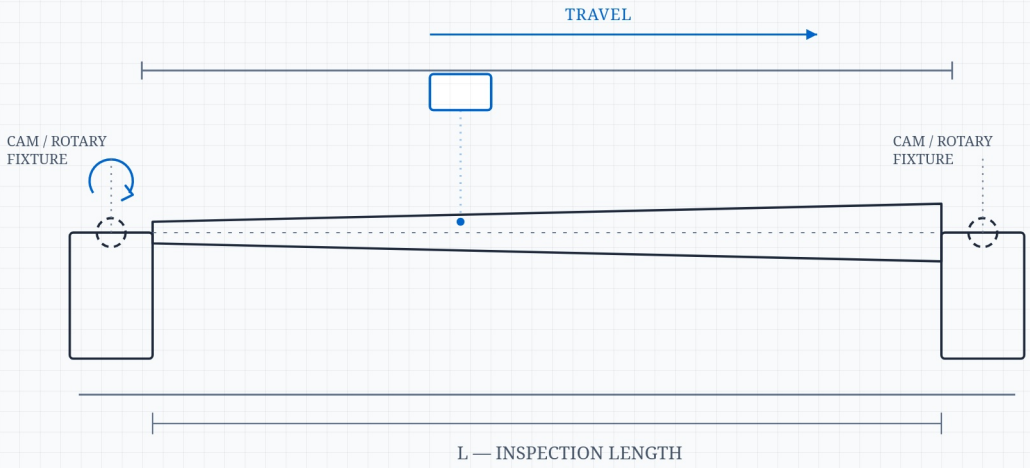
SCAN PATH Ø → L MM

AXISCAN 3D
PRECISION INSPECTION SYSTEM



— PRECISION METROLOGY / AUTOMATED INSPECTION

AXISCAN 3D
PRECISION INSPECTION SYSTEM

Automated full-length dimensional & profile inspection for precision ground shafts, mandrels, and cylindrical tooling. Replaces manual dial-gauges with high-speed automated laser metrology.

REQUEST FREE SAMPLE PART SCAN

DOWNLOAD BROCHURE (PDF)

Direct OEM Metrology Lab • On-Site Installation & Training • Comprehensive Warranty & Custom Fixtures

2000mm	360°	<10µm	45s
MAX LENGTH (Ø TO 400MM)	ROTATIONAL SCANNING	TARGET CAPABILITY	FULL-PART CYCLE TIME

— THE CONCEPT

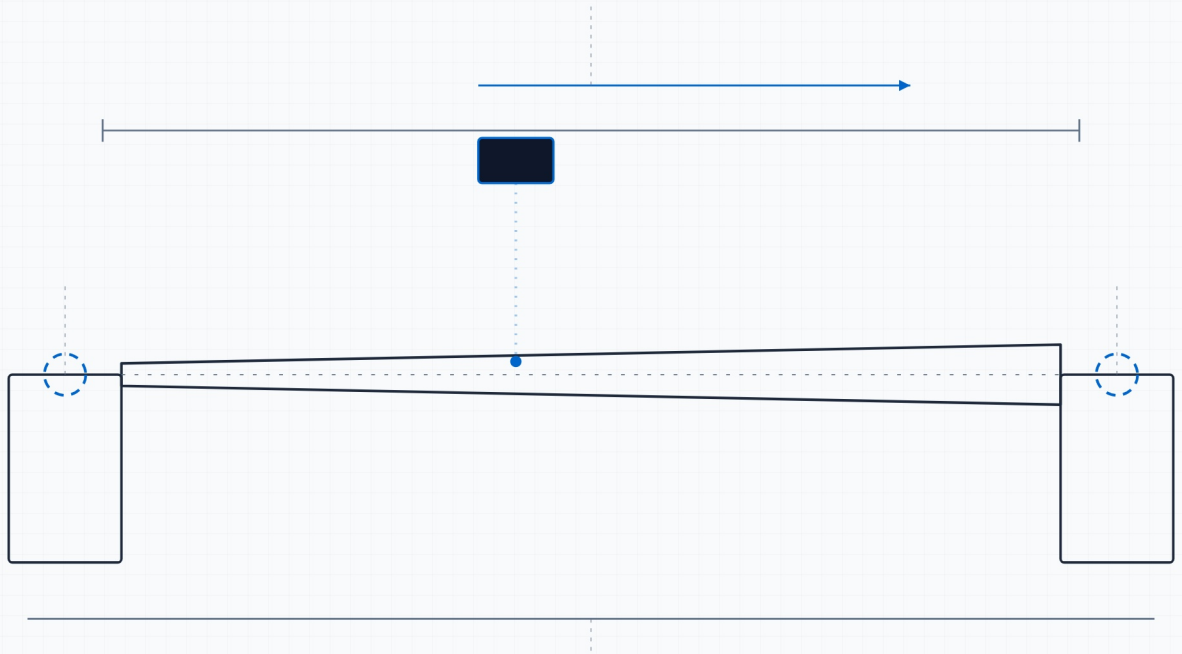
ROTATION + LINEAR SCANNING = COMPLETE 3D INSPECTION

The component rotates smoothly on precision rotary chucks while the laser profile sensor travels along its full length. Together, the two synchronized axes reconstruct the complete 3D surface geometry for micron-level tolerance analysis.

03 — 250 kHz BLUE LASER
405 nm anti-glare optics for ground steel & polymers.

01 — ROTARY / CAM FIXTURE
Holds and rotates the workpiece with zero backlash.

02 — 360° SYNCHRONIZED ROTATION
Exposes entire circumference for full 3D radial capture.



04 — PRECISION LINEAR TRAVEL
Servo-driven optical carriage travels 0-2000 mm.

05 — 3D SURFACE RECONSTRUCTION
Synchronized motion generates full surface mesh.

ROTATION: **0-300 RPM** LINEAR TRAVEL: **0-2000 mm** SAMPLING: **250 kHz OPTICAL**

— HOW IT WORKS

SIX STEPS, FULLY AUTOMATED

⚡ 1-BUTTON SHOPFLOOR OPERATION • ZERO CAD PROGRAMMING REQUIRED FOR PRODUCTION RUNS

SYNCHRONIZED ROTATION & LINEAR SENSOR TRAVEL

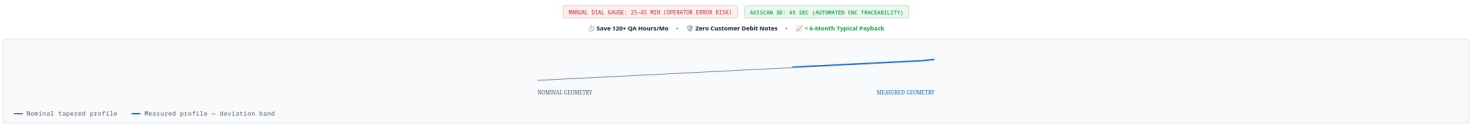
01	•	**LOAD** (55 + CHUCK CLAMP)	Component is loaded and zeroed between the precision rotary chucks.
02	•	**ROTATE** (360° SYNC)	Fixtures rotate the component through a full 360° at controlled speed.
03	•	**SCAN** (250 KHZ)	The sensor travels the linear axis, capturing micron-level profile data.
04	•	**ACQUIRE** (1.2M PTS)	Rotation and linear travel synchronize to build a dense measurement grid.
05	•	**RECONSTRUCT** (3D MESH)	Point-cloud data is assembled into a full 3D surface model.
06	•	**ANALYZE** (PASS / FAIL)	Automatic pass/fail tolerance evaluation with exportable inspection certificate.

— PRECISION & BENCHMARKING

BUILT AROUND ONE NUMBER

<10 µm

TARGET MEASUREMENT CAPABILITY



01 Precision laser profile measurement at defined scan points

02 Controlled, repeatable mechanical rotation and linear travel

03 Full-length inspection across the defined measurement path

04 Repeatable measurement across production runs without operator error

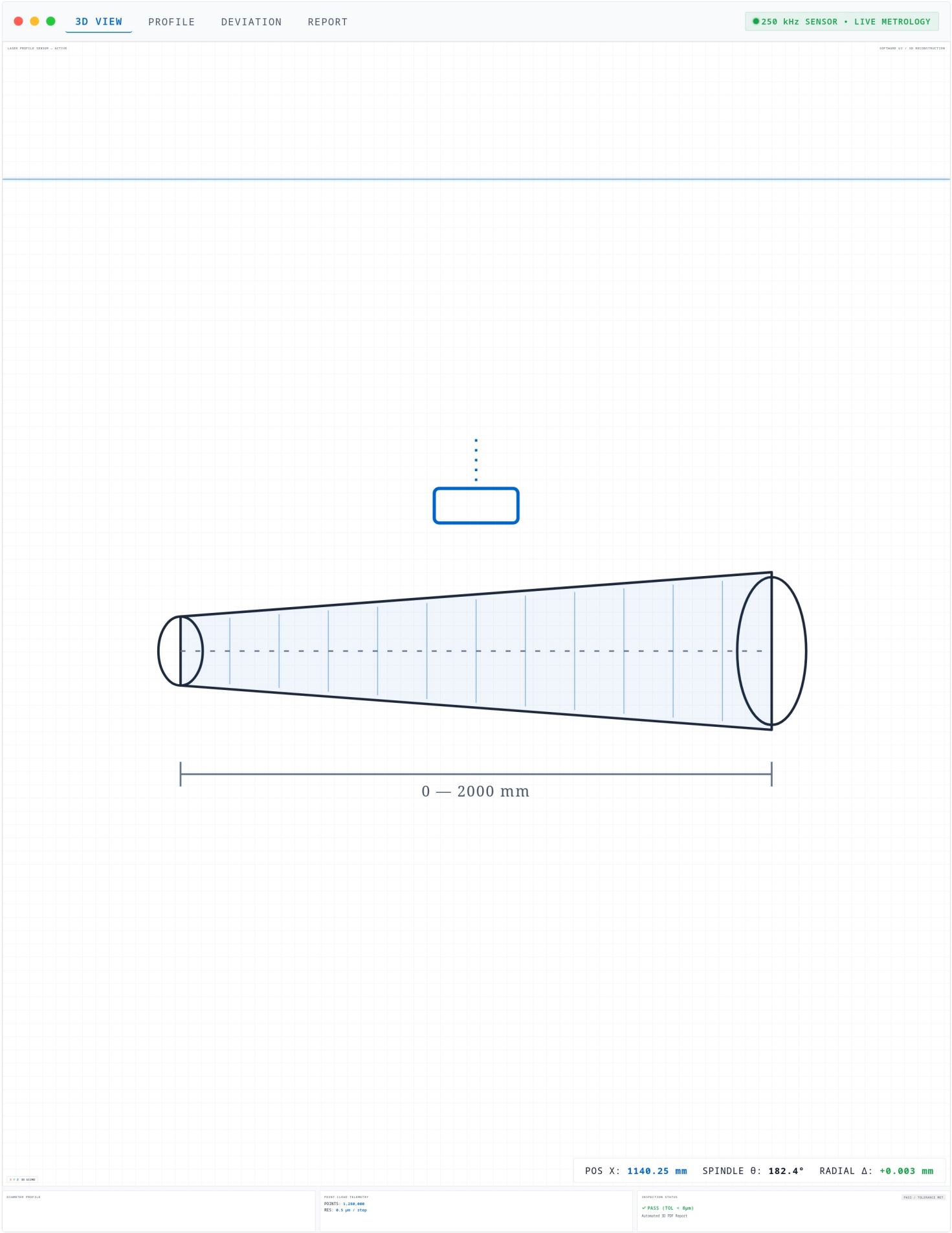
05 Automated tolerance analysis for consistent inspection decisions

Complimentary Sample Part Benchmarking:
Send 2 sample ground shafts, mandrels, or rollers to our metrology lab for a complimentary 3D runout & straightness report.

Book Benchmark Scan →

— 3D MEASUREMENT & SOFTWARE

FROM SCAN TO INSPECTION DECISION, AUTOMATICALLY



— SYSTEM DATA & CUSTOMIZATIONS

TECHNICAL SPECIFICATIONS

Workpiece Capacity	Length up to 2000 mm • Diameter Ø 5 mm – Ø 400 mm
Measurement capability	<10 µm target repeatability
Optical Sensor Head	405 nm Blue Laser Triangulation (250 kHz Sampling Rate)
Rotational Spindle Axis	Full 360° Synchronized Rotary Axis (0–300 RPM)
Inspection Parameters	Runout (TIR), Straightness, Diameter, Bend, Ovality, Profile
Thermal Stability	Real-Time Thermal Expansion Drift Compensation (ISO 1 Ref)
Standards & Algorithms	ISO 1101 / ISO 16610 Gaussian & Minimum Zone (MZ) Fitting
Calibration Master	NABL ISO/IEC 17025 Optical Reference Step Master Included
Data Export & Traceability	Automated 3D PDF, CSV, JSON, STEP Point Cloud (IATF 16949 Ready)
Warranty & Service	12-Month Comprehensive OEM Warranty + On-Site AMC Support
Factory Commissioning	Turnkey Setup, Custom SOP Setup & Operator Certification Included

DIRECT OEM ENGINEERING & GLOBAL ON-SITE DEPLOYMENT

Direct OEM Engineering
In-house precision metrology, laser sensor integration & custom software algorithms.

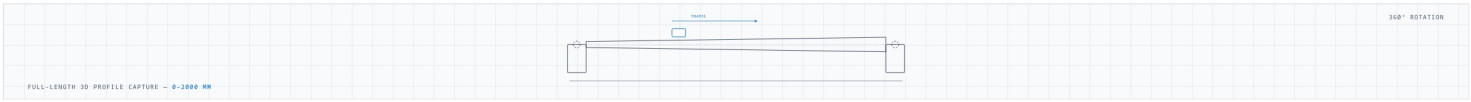
On-Site Installation & Training
Turnkey on-site machine setup, operator training & NABL traceable calibration support.

Custom Fixturing to Drawing
Tailored pneumatic/cam fixtures & software tolerances matching your production drawings.

— TARGET APPLICATIONS

INDUSTRY APPLICATIONS

Full-length 3D inspection for precision cylindrical components and tooling across high-tolerance industries.



01 **MANDRELS & CYLINDRICAL TOOLING**

Full-length 3D inspection of rubber/silicone mandrels, composite pipe mandrels, and precision cylindrical tooling.

Runout < 10 µm | Taper Angle | Wall Uniformity

02 **CNC CYLINDRICAL & CENTERLESS GRINDING SHOPS**

High-speed 100% inspection of precision ground shafts, spindles, guide pins, and hardened tooling to eliminate taper, ovality, and chatter marks.

Cylindrical & Centerless | Taper & Ovality | Straightness & TIR | 100% Dispatch QC

03 **PRINTING, PACKAGING & TEXTILE ROLLERS**

3D surface and runout inspection for printing cylinders, anilox rolls, textile shafts, and film extrusion rollers.

Diameter Uniformity | Cylindricity | Surface Profile

04 **PHARMACEUTICAL MANUFACTURING TOOLING**

Precision inspection of capsule pin bars, blister packaging tooling, and medical catheter mandrels.

Micro-Tolerance | Batch QC Traceability | NABL Grade

05 **OTHER ROTATIONALLY SYMMETRIC COMPONENTS**

Have a cylindrical or tapered part not listed here? We evaluate custom mandrels, rollers, and shaft geometries on request.

Custom Fixtures | Tailored CAD Tolerances | Multi-Axis Automation

— INSPECTION CAPABILITIES

RUNOUT | STRAIGHTNESS | BEND | DIAMETER | PROFILE | SURFACE DEVIATION | SCRAP REDUCTION

Multi-Axis custom automation & specialized inspection on request

— AUTOMATE YOUR QUALITY INSPECTION TODAY

PRECISION. AUTOMATED. MEASURABLE.

Standard AXISCAN 3D metrology & custom factory inspection automation with comprehensive on-site commissioning.

SAMPLE SCAN TURNAROUND: 24–48 HOURS · NABL TRACEABLE CALIBRATION

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ENGINEERING & METROLOGY LAB
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BEYOND AXISCAN 3D

Beyond standard machines, our in-house R&D also takes on custom robotics, embedded controllers, and hardware integration challenges. Have a non-standard requirement? Let's talk →