BLUE LIGHT STRUCTURED LIGHT SCANNER

OptimScan Q12 / Q9 HD

High-Precision 3D Inspection Scanners

The HD versions of the OptimScan Q12 and Q9 are built for small, detailed parts. Four cameras, a blue LED projector and two scan ranges reach 0.004 mm accuracy and a 0.02 mm point distance, verified in an ISO/IEC 17025 accredited lab. Run them by hand, on a turntable, or on a robot.



0.004 mm	0.02 mm	< 1 s
ACCURACY (SMALL RANGE)	MIN. POINT DISTANCE	PER SHOT

Accuracy
0.004 mm

Min. Point Distance
0.02 mm

Two Scan Ranges

Monocular-Stereo Fusion (MSF)

Single Shot
< 1 s

Micron-Level Accuracy, Certified in an ISO/IEC 17025 Lab

The Q12 HD pushes fringe projection scanning to a new level of accuracy and fine detail in its class: four high-resolution cameras reach 0.004 mm on small features and complex surfaces. That figure is tested, not claimed. Every system is verified in the SHINING 3D Accuracy Laboratory, accredited to ISO/IEC 17025, against VDI/VDE 2634 Part 2 and ISO 10360, with full traceability. It is the record your quality manager, and your customer's auditor, will ask to see.



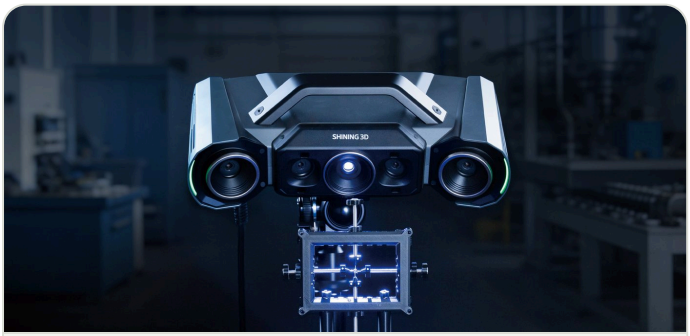
Large-volume hall: reference scale bars set the traceable length standard for accuracy tests.



Long-range rail: working distance and depth of field verified along a calibrated track.



Calibration benches: systems are verified to VDI/VDE 2634 and ISO 10360 before sign-off.



The Q12 HD scanning a small part in a vertical fixture on the turntable. One click switches between the two scan ranges.



Semi-automated mode in an aircraft hangar: the Q12 HD on a fixed tripod over an automatic turntable, run from a laptop.

Effortless Scan Range Switching

Switch scan ranges with a single click, with no manual aperture or focus adjustment. Data from both ranges fuses in the software.

Large range: 220 × 150 mm field.

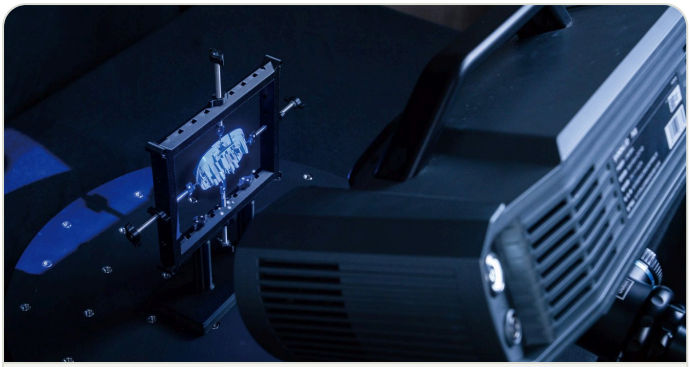
Small range: 80 × 50 mm field for the finest detail.

Flexible Operation Modes

Manual. Compact and easy to carry, with full operator control.

Semi-automated. Fixed tripod plus an automatic turntable rated to 20 kg.

Fully automated. Mounts on industrial robots for series measurement.



Blue light on an earbud charging case held in a fixture. Its deep grooves and narrow gaps are the kind of feature MSF fills in.

Monocular-Stereo Fusion (MSF)

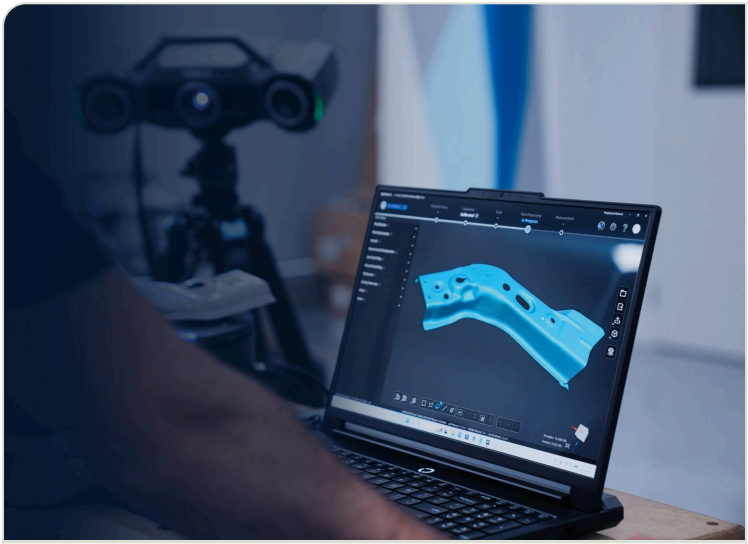
MSF combines single-camera and stereo data to increase coverage and complete the scan at inside corners and joints, where industrial parts usually leave holes.



The optional dual-axis turntable with the Q12 HD, and the live scan on the laptop beside it.

Dual-Axis Turntable (Optional)

The optional automatic dual-axis turntable carries parts up to 3 kg and runs multi-angle scans from one click. Intelligent supplementary scanning plans extra paths to fill missing data, and the dual-chip computing platform keeps each capture under 1 second.



A stamped bracket scanned into OptimScan software on the laptop, with the Q12 HD on its tripod behind.

OptimScan Software Enhancements

Powerful, continuously updated software is included. Scan as much as you want, all year, with no hidden fees. Recent additions: scanning templates, vibration detection, temperature control and background cutting.

SHINING3D Inspect (Optional)

Modular, customizable inspection from data acquisition to report, for dimensional inspection and QC in automotive, civil aviation and precision manufacturing. Its 3D inspection module is certified by PTB.



An automated cell in an electronics plant: the Q12 HD on a robot arm measures a phone frame held in a fixture.

Automated Inspection Solution

The Q12 HD integrates with SHINING 3D's intelligent 3D inspection system for a fully automated workflow from scanning to report.

Path teaching. Teach the robot path once.

Automated 3D measurement. Every part is scanned the same way.

Automated 3D inspection. Scan data is compared against CAD.

Automated report generation. Results come out as a finished report.

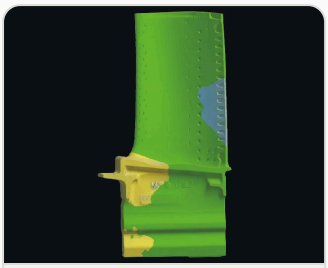
Q12 HD or Q9 HD?

Both models share the same housing, fields of view, 0.004 mm accuracy, working distance and depth of field. The difference is camera resolution: in the small range the Q12 HD reaches a 0.02 mm point distance and the Q9 HD 0.03 mm.

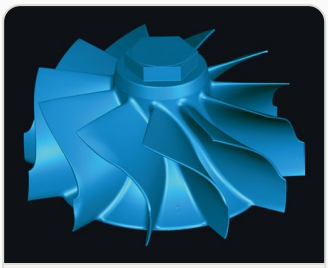
12.3 MP × 4 cameras Q12 HD	**9** MP × 4 cameras Q9 HD

Data Display

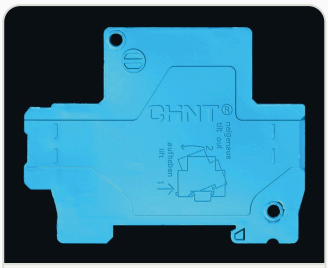
Scan data captured with the Q12 HD. Thin edges, shallow engraving and fine fins come through clean.



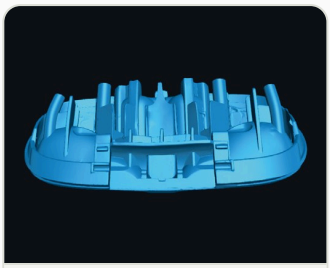
High-pressure turbine blade: color deviation map against CAD.



Impeller: blade edges as thin as 1.1 mm captured intact.



Molded housing: surface detail only 0.1 mm deep resolved.



Finned part, 59.5 mm across: every narrow fin captured.

Proven Across Industries

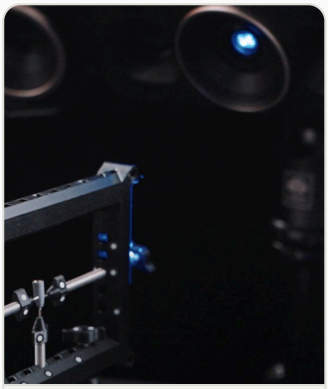
SHINING 3D demonstration scans with the Q12 HD, one per application area named in the OEM brochure.



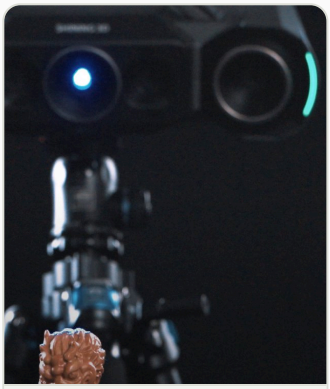
Civil aviation: scanning and inspecting a high-pressure turbine blade.



3C electronics: scanning and inspecting a small chip test socket.



Medical devices: capturing a 10 mm dental implant held in a fixture.



Cultural heritage: high-resolution data of a carved seal's fine detail.

Specifications

Specification	Q12 HD · Large range	Q12 HD · Small range	Q9 HD · Large range	Q9 HD · Small range
FOV	220 × 150 mm	80 × 50 mm	220 × 150 mm	80 × 50 mm
Accuracy	0.01 mm	0.004 mm	0.01 mm	0.004 mm
Point distance	0.054 mm	0.02 mm	0.06 mm	0.03 mm
Working distance	600 mm	200 mm	600 mm	200 mm
Depth of field	120 mm	30 mm	120 mm	30 mm
Resolution	4 × 12.3 MP		4 × 9 MP	
Light source	Blue LED			
Weight	3.6 kg			
Dimensions	366 × 162 × 132 mm			
Data cable length	5 m			
Operating temperature	0 – 40 °C			
Operating humidity	10 – 90%			
Certifications	CE, FCC, RoHS, WEEE, KC, FDA, UKCA, IP50, TELEC, TiSAX			
Acceptance test	VDI/VDE 2634 Part 2 & ISO 10360 certified (ISO/IEC 17025 accredited lab)			

VDI/VDE 2634 PART 2 · ISO 10360 · ISO/IEC 17025 ACCREDITED LAB · IP50

See it on your parts.

Book a live demo or a free sample scan. US-based metrology team, fast turnaround.

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Rev.1 TECHNOLOGIES