SHINING 3D
METROLOGY

FreeScan Omni Series

World's First Standalone Inspection-Ready Metrology 3D Scanner

Inspect on the move

Contact Us

FreeScan Omni Series

FreeScan Omni Series is the industry's first wireless, standalone, metrology 3D scanning platform, delivering certified accuracy of 0.02 mm. Powered by onboard computing, an integrated screen, and dual light sources, FreeScan Omni Series enables high-performance scanning and data processing directly on the device.

Built as a scalable platform, FreeScan Omni Series supports flexible module expansion, enabling a progressive investment that evolves with future application demands.

- On-Scanner Scan-To-Inspect
- Certified Accuracy of 0.02 mm
- Multi-Mode & High-Performance
- Scalable Platform with Modular Expansion

Metrology-Grade On-Scanner Inspection

From scanning and meshing to inspection and reporting, every step is seamlessly completed right on the scanner. With preset templates and an intuitive interface, frontline staff can just scan the part and get instant, consistent reports—making quality control efficient and scalable.

Built-in PTB-certified software

Integrated with SHINING3D Inspect module, the standalone device delivers instant, high-quality, full-field inspection results.

Automated & intuitive inspection

Run inspections automatically with just one click, and navigate the process effortlessly with a user-friendly interface and visualized results, making inspections both simple and efficient.

Effortless reporting & export

View detailed inspection reports directly on the device or easily export them to a USB drive or PC in multiple formats.

Engineered for On-Site Quality Control

Certified metrology accuracy

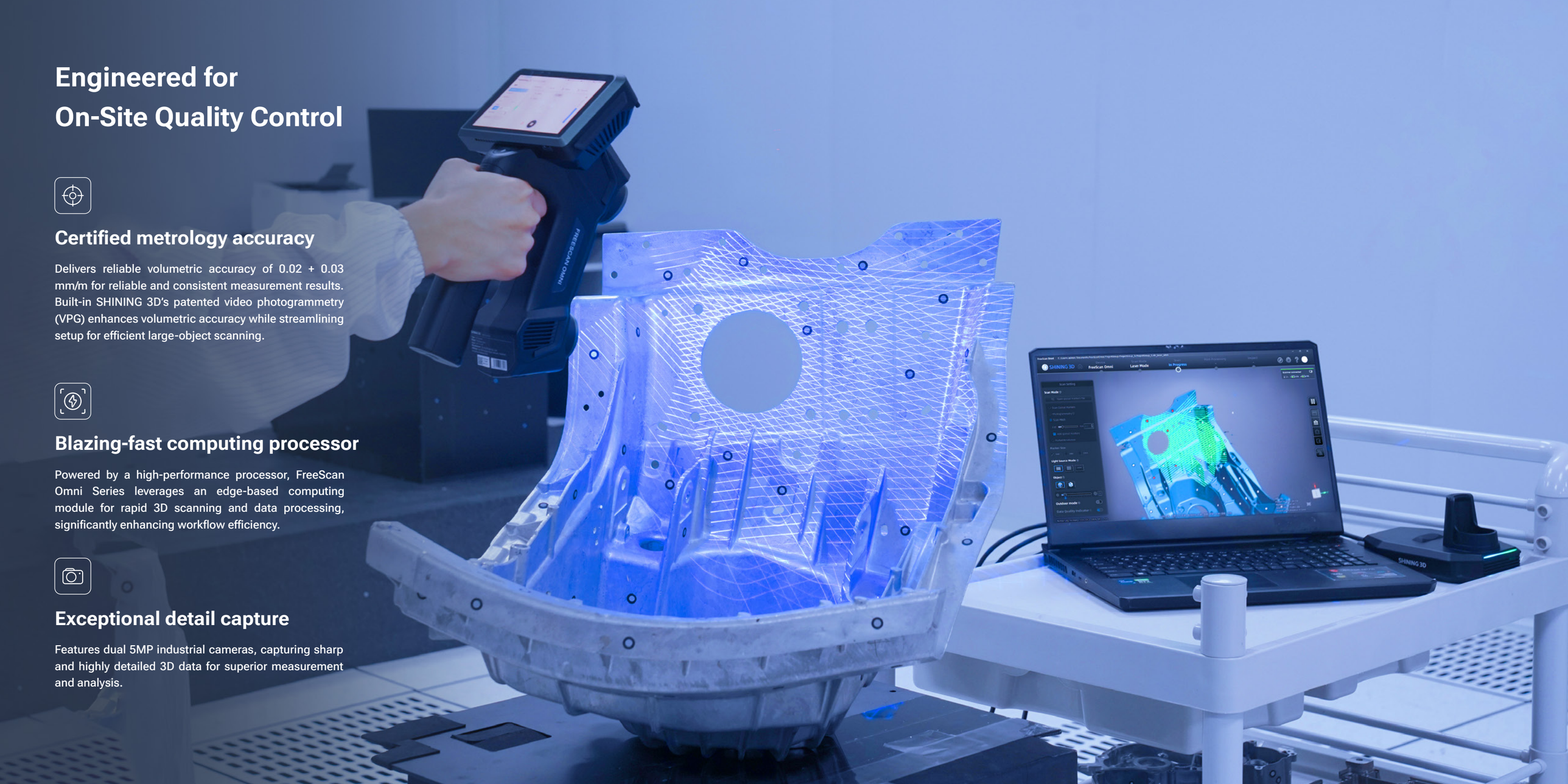
Delivers reliable volumetric accuracy of 0.02 + 0.03 mm/m for reliable and consistent measurement results. Built-in SHINING 3D's patented video photogrammetry (VPG) enhances volumetric accuracy while streamlining setup for efficient large-object scanning.

Blazing-fast computing processor

Powered by a high-performance processor, FreeScan Omni Series leverages an edge-based computing module for rapid 3D scanning and data processing, significantly enhancing workflow efficiency.

Exceptional detail capture

Features dual 5MP industrial cameras, capturing sharp and highly detailed 3D data for superior measurement and analysis.



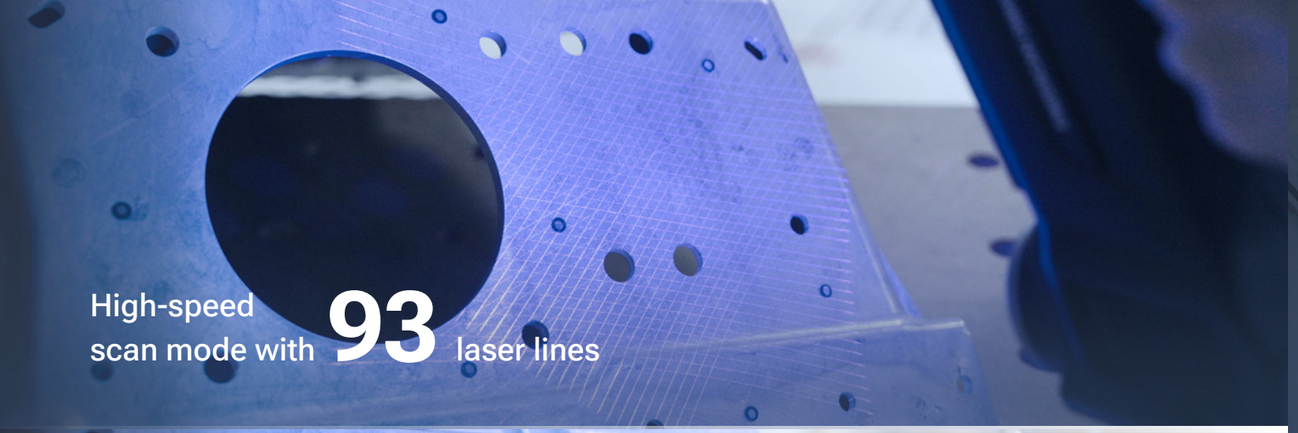
Power Without Limits

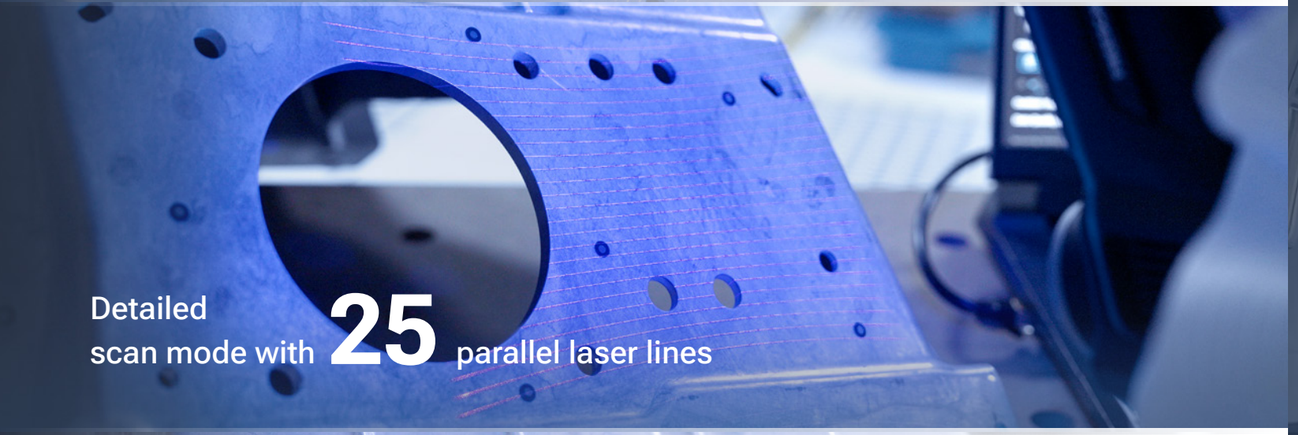
FreeScan Omni Series delivers a fully wireless experience, eliminating power cords and data cables. Scanning, processing, and inspection run entirely on the device. Detachable battery packs enable seamless swaps without downtime.

Smart Dock:
Power & Wi-Fi Set in One Step

Quick power boost — always ready to go.

Auto network setup — just dock once to connect.


High-speed
scan mode with 93 laser lines


Detailed
scan mode with 25 parallel laser lines


Deep pockets
scan mode with 1 laser line


Multiple Scanning Modes
for Industrial Usage
IR rapid scan mode for quick scans
without markers

Flexible Expansion for Evolving Needs

FreeScan Omni is a fully integrated, on-device scan-to-inspect solution that completes scanning, inspection, and reporting in one flagship configuration.

FreeScan Omni Lite shares the same hardware foundation as FreeScan Omni, delivering certified accuracy, and high-performance scanning. As application needs evolve, FreeScan Omni Lite can be expanded with dedicated modules.

Highlights	FreeScan Omni	FreeScan Omni Lite
SHINING3D Inspect module for PC	✓	○
On-device inspection	✓	○
Video photogrammetry (VPG)	✓	○
AI feature recognition	✓	○
Two Work Modes (PC and Standalone mode)	✓	✓
Multiple scanning modes (high speed / detailed / deep pockets / IR scan)	✓	✓

○ Available as optional module

On-device inspection

Scan, inspect, and generate reports directly on the scanner, enabling scalable, consistent on-site quality checks directly on the shop floor.

Watch demo

VPG (video photogrammetry)

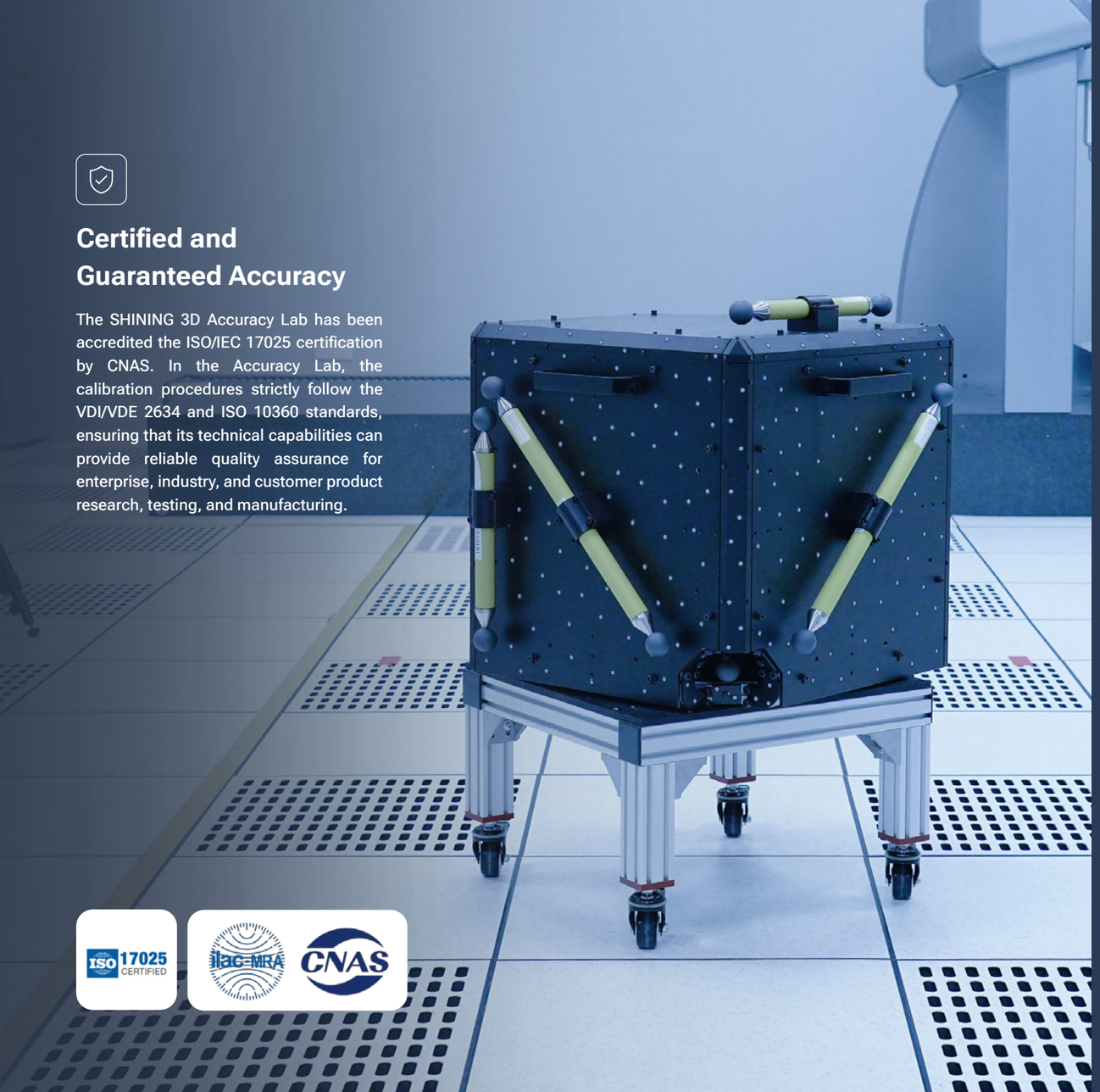
SHINING 3D's patented VPG ensures consistent volumetric accuracy for large-object scanning—without coded markers and with faster setup.

Watch demo

AI feature recognition

Intelligent boundary detection provides fast, precise measurement of round holes, rectangular holes, and slots, ensuring high-quality and high-accuracy data capture.

Watch demo



Certified and Guaranteed Accuracy

The SHINING 3D Accuracy Lab has been accredited the ISO/IEC 17025 certification by CNAS. In the Accuracy Lab, the calibration procedures strictly follow the VDI/VDE 2634 and ISO 10360 standards, ensuring that its technical capabilities can provide reliable quality assurance for enterprise, industry, and customer product research, testing, and manufacturing.

SPECIFICATIONS

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Product	FreeScan Omni Series
Accuracy	0.02 mm (0.0008 in)
Volumetric accuracy with VPG	0.02 + 0.015 mm/m (0.0008 in + 0.00018 in/ft)
Scan speed	Up to 7,619,000 points/s
Hardware	Built-in computing (32G) / FPGA / 1TB SSD
Resolution	0.01 ~ 10 mm
Depth of field	830 mm (170 ~ 1000 mm)
Max. FOV	Laser: 580 x 650 mm; IR: 1205 x 1104 mm (Laser: 22.8 x 25.6 in; IR: 47.4 x 43.5 in)
VPG	Supported (no coded markers required)
Inspection module	Supported (integrated on-device inspection)
High-speed scan	Included (93 laser lines) | VCSEL
Detailed scan	Included (25 parallel laser lines)
Deep pockets scan	Included (1 laser line)
Hole scanning	Supported (intelligent hole boundary detection)
Smart dock connection	Wireless & Wired mode (Fiber optic)
Output format	.stl, .asc, .3mf, .p3
Certifications	CE, FCC, ROHS, WEEE, KC, FDA, UKCA, IP50,TELEC, TiSAX
Acceptance test	VDI/VDE 2634 Part3, ISO 10360 (certified in ISO 17025 certificated accuracy lab)

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