REVOPOINT



Robot 3D Scanning System

Metrohub

www.revopoint3d.com

Automated Robotic Scans

Boost productivity with the collaborative Metrohub, enabling automated batch object 3D scanning and measurement in labs and production lines.

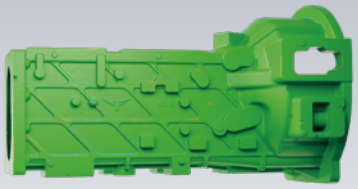
Robot 3D Scanning System

Metro hub



Complies with VDI/VDE standards

CNAS Certified Industrial Grade Accuracy



Volumetric Accuracy, up to

0.015 mm + 0.04 mm × L (m)



Agile Motion

6-axis, ±360° Movement



Automatic Scan

Multi-line Laser Scan
Point Rate, up to

3,000,000 Points/s



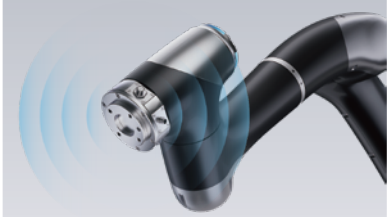
919 mm

Working Radius



5 Kg

Max Payload



1N

Force Sensitivity

From Scan to Measurement - Fully Automated

Metrohub integrates a high-precision 3D scanner, a 6-axis cobot, an electric large turntable, and professional software to enable automated multi-angle scanning, measurement analysis, and inspection reporting. It features intuitive drag-to-teach path planning, force sensing, and collaborative safety design.



Metrohub 09TR

- Trackit SR Optical Tracking 3D Scanner
- Vbot 9 Cobot
- Electric Large Turntable
- TrackBot Automation Software

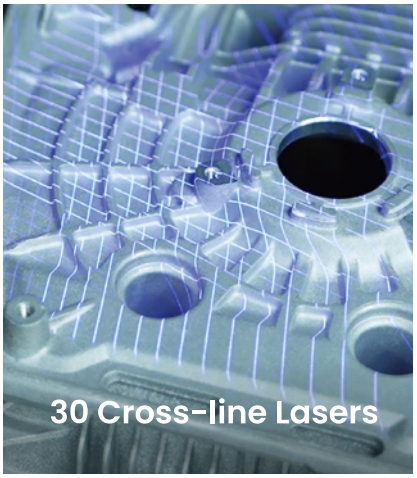


Metrohub 09YU

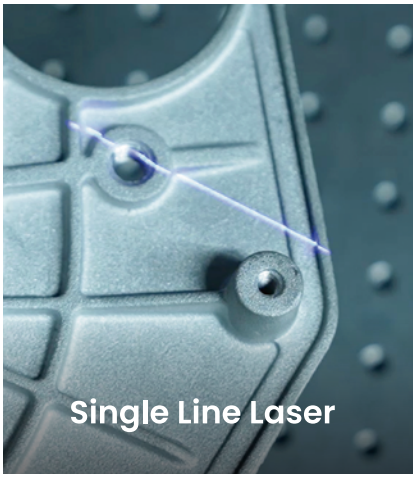
- MetroY Ultra 3D Scanner
- Vbot 9 Cobot
- Electric Large Turntable
- MetroBot Automation Software

Metrohub 09TR
Real-Time, Marker-Free, Automation at Full Speed

Enables marker-free scanning of black, reflective, and metallic surfaces at up to 2,000,000 points/s.

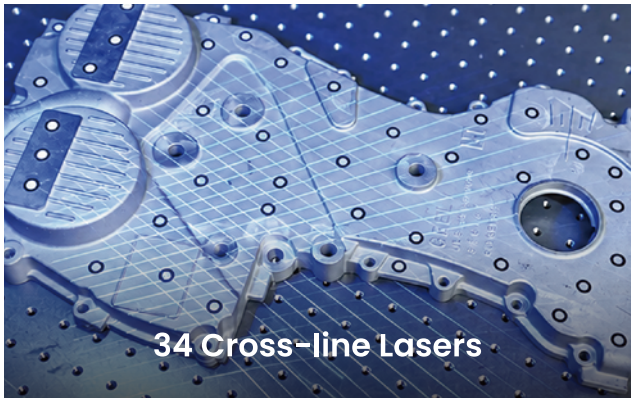


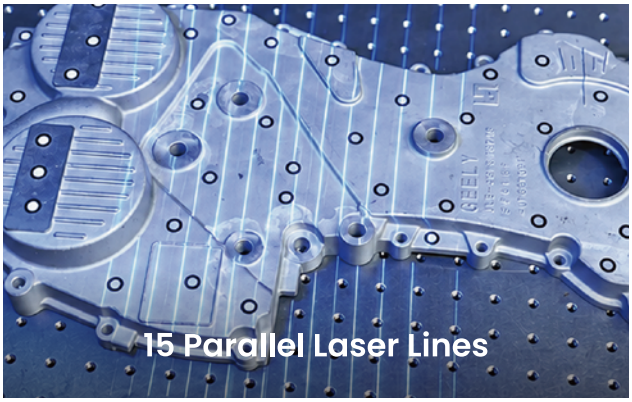


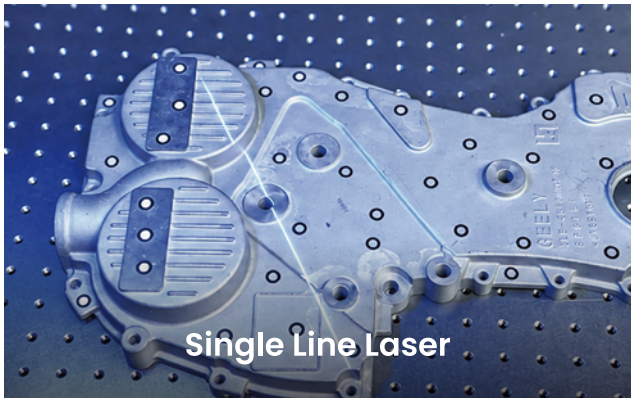


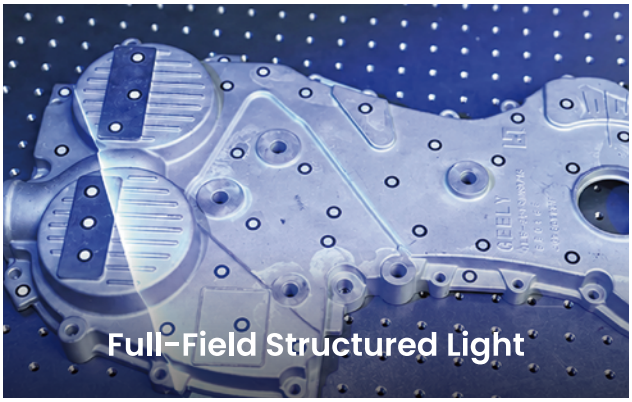
Metrohub 09YU
Real-Time, Intelligent Multiple Scanning Modes

Captures up to 7,000,000 points/s when capturing dark, highly reflective, and complex surfaces.









Fully Automated Calibration

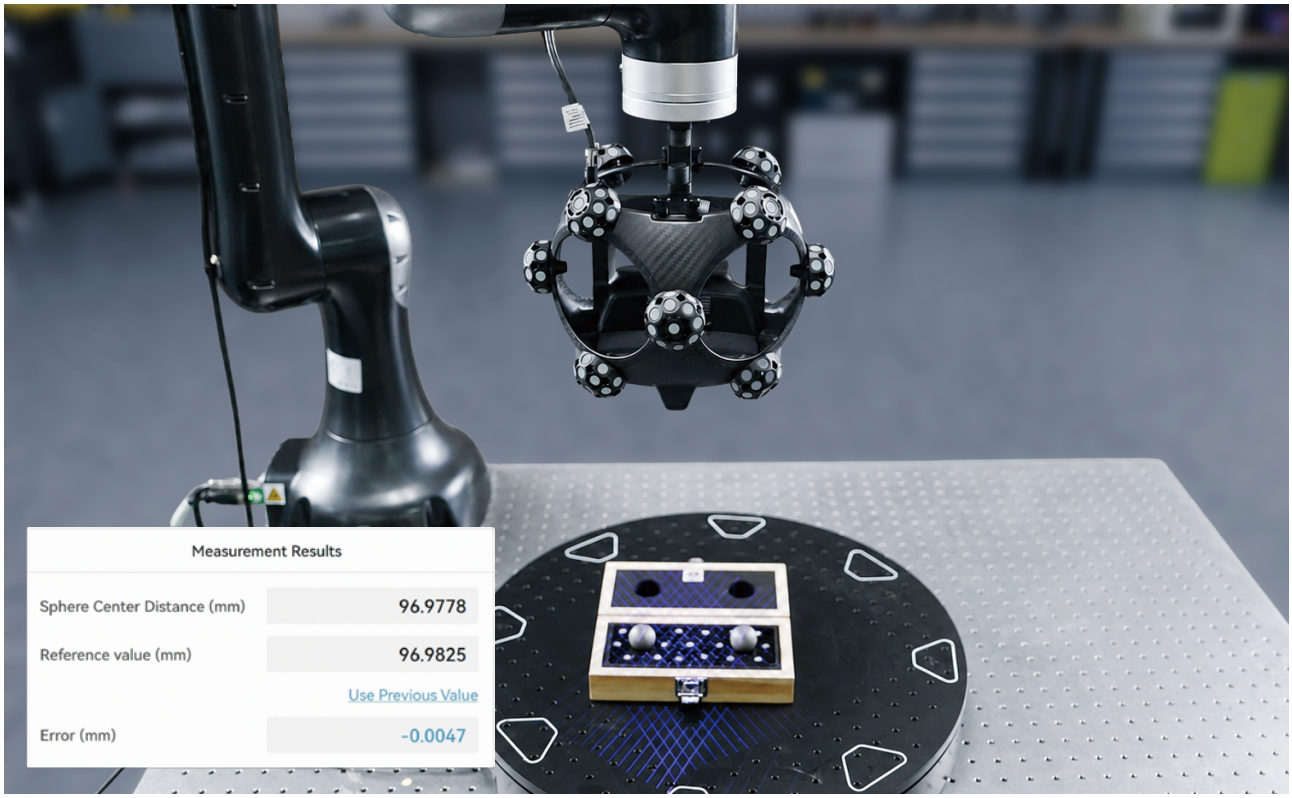
Automated calibration workflow simplifies calibration of the robot, 3D scanner, and turntable — eliminating human error for reliable, repeatable results.





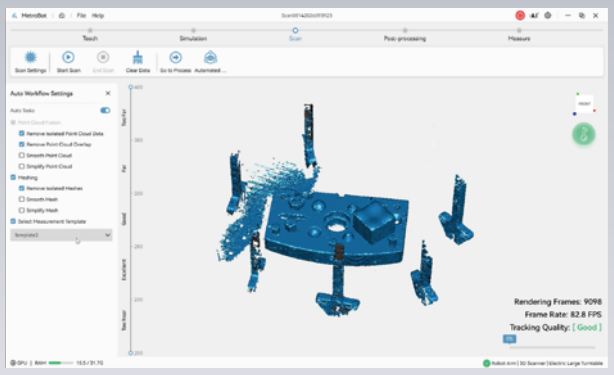
On-Site Accuracy Verification

Once a metrology-grade Ball Plate is placed on the Electric Large Turntable, the software automatically performs scanning, calculation, and confirms accuracy.

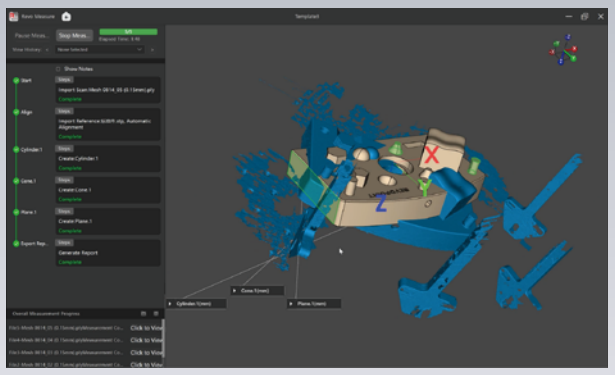


Automated Scan-to-Measure Workflow

Metrohub supports preset scan and measurement templates for batch and repeat inspection workflows. Upon scan completion, it seamlessly triggers Revo Measure for dimensional inspection, GD&T analysis, and result output — closing the full loop automatically.



Preset Scan, Select Measurement Template



Run Preset Measurement Workflow

Dual Scanning Modes: Automated & Handheld



Automatic Scan

Complex path scanning, repeatability testing, and data acquisition tasks.

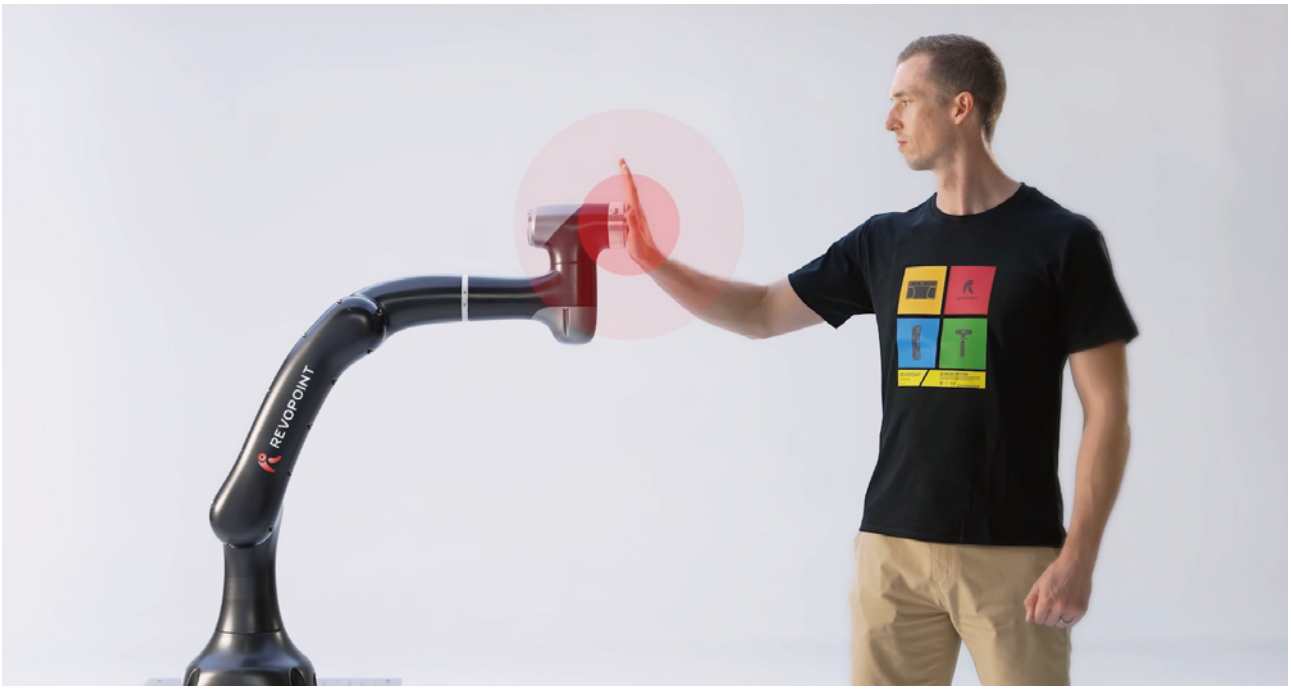


Flexible Manual Scan

Flexible tasks such as on-site spot checks, rapid sample acquisition, targeted re-scanning, and reverse modeling.

Safe by Design

Safely work alongside the robot without requiring safety fences or separate zones, with its 1N force sensitivity, ensuring complete collision protection.

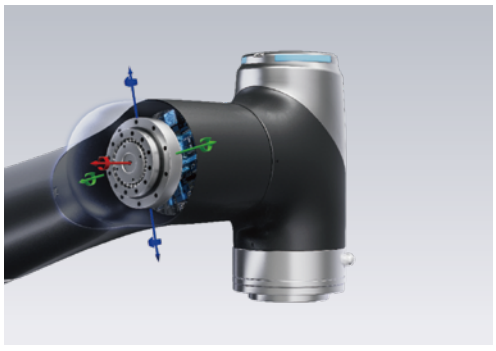


High-Precision Force Detection

Equipped with advanced integrated 6-axis force sensors, the Vbot 9 provides ultra-sensitive force feedback with rapid response times.







Smooth Drag-to-Teach Operation

The intuitive drag-to-teach function enables beginners to configure even complex tasks simply by moving the robot.



Great Connectivity



Third-Party Development Kit

Its TCP/IP software control protocol allows easy integration into third-party control software for factory automation, inspection, batch 3D scanning, and other applications.



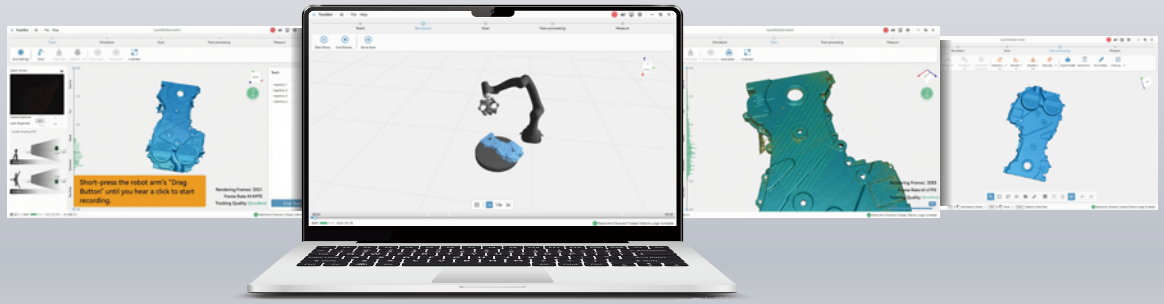
TCP/IP

iOS
Android
Windows
Java
C++
Python
C#
Ubuntu

Plug-and-Play 3D Automation

Quickly set up complex automated scans using the system's drag-to-teach, CAD-to-path, or vision-to-path features, and accurate path creation.

TrackBot MetroBot



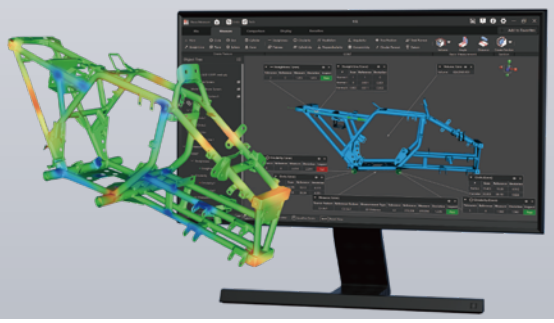
Teaching → Simulation → Scan → Post Process

Fully Integrated with Revo Software

Revo Measure
Powered by Revopoint

Professional 3D Measurement Software

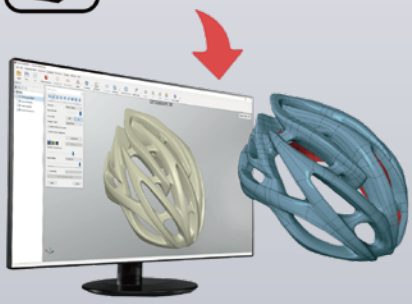
- Accurate Dimension Measurement
- GD&T Analysis
- Model Deviation Analysis
- Section Creation and Measurement
- Measurement Report Export
- Seamless Integration with Revo Scan



Revo Design
Powered by QUICKsurface

Effortlessly connect with Revo Design for seamless scan-to-CAD workflows.

· STL · OBJ · PLY



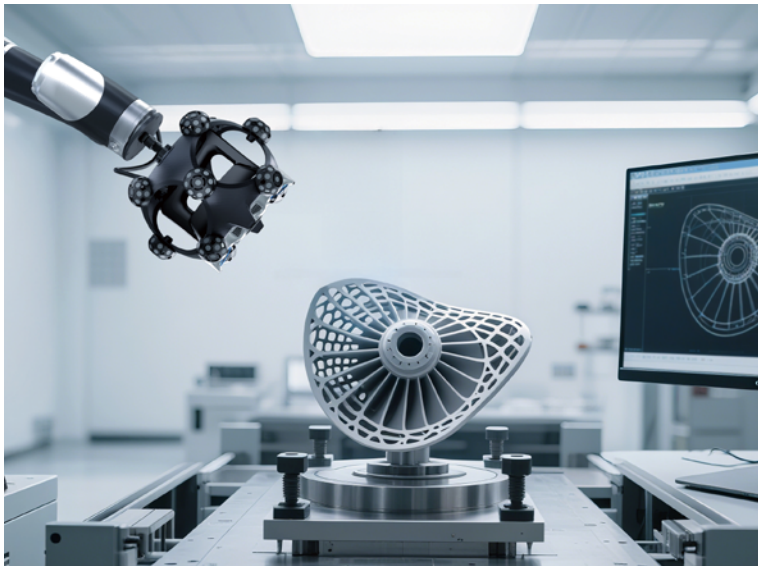
· IGES · STEP

Applications



Automated 3D Scanning

The robot autonomously scans turbine blades in a full 360° rotation, utilizing AI-powered collision avoidance, to achieve 98% coverage in a single setup.



Additive Manufacturing

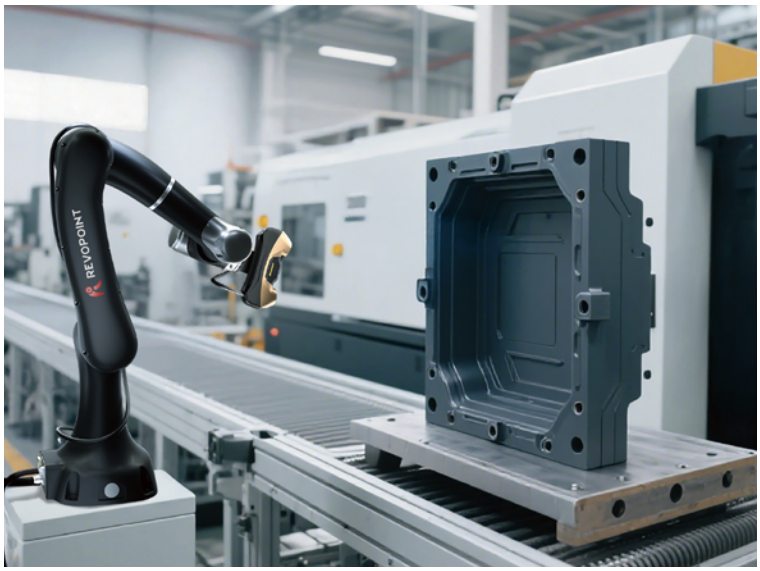
Generate production-ready STL files with intelligent robotic path planning, ensuring complete coverage and eliminating blind spots on complex geometries.



Casting and Forging

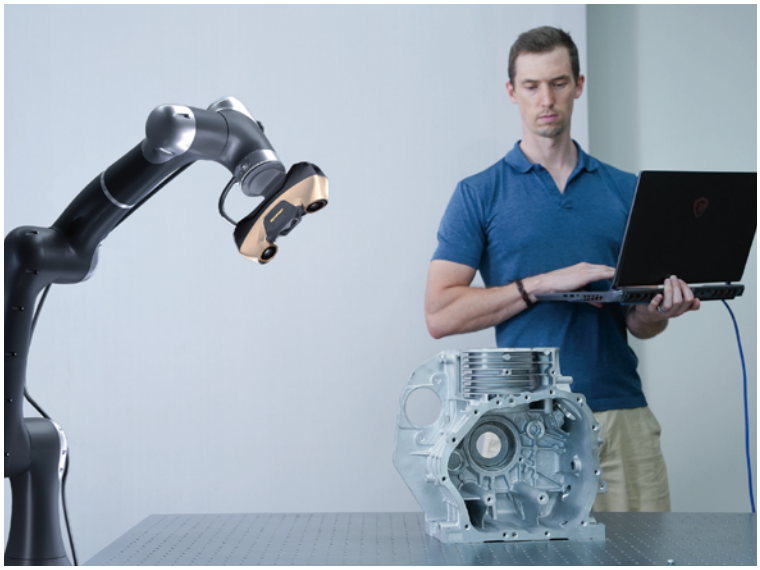
Perform in-line scanning of high-temperature castings with real-time thermal compensation, reducing mold adjustment time by up to 70%.

Applications



Plastics

Optimization in all phases of injection molding, blow molding, and thermoforming.



Metal Forming

Inspect weld seams on automotive body panels, enabling high-precision, automated quality assurance.



Battery Inspection

Scan prismatic battery cases with full coverage in minutes, dramatically faster than traditional CMM methods that can take hours.

Metrohub 09TR Specifications

Metrohub 09TR Robot 3D Scanning System	
Main components	Trackit SR Optical Tracking 3D Scanner, Robot Vbot 9
Metrohub 09TR Volumetric Accuracy①	0.025 mm + 0.04 mm × L (m)
Scannable Object Dimensions	∅500 mm × H 500 mm
Worktable Mounting Dimensions (L × W × H)	90 × 90 × 80 cm
Trackit SR Optical Tracking 3D Scanner	Scanner 
Fused Point Distance, up to	0.05 mm
Scanning Speed, up to	2,000,000 Points/s
Light Source②	Fine Mode: 30 Blue Cross Laser Lines Far Mode: 17 Blue Parallel Laser Lines Deep Hole Mode: 1 Blue Single Laser Line
Working Distance	Cross Laser Lines: 200 - 400 mm Parallel Laser Lines: 250 - 500 mm Single Laser Line: 200 - 400 mm
Single Capture Area at Nearest Distance	123 × 130 mm at 200 mm
Single Capture Area at Furthest Distance	330 × 325 mm at 500 mm
Weight	1.0 kg
Dimensions (L × W × H)	250 × 250 × 177 mm
Operating Temperature Range③	0 - 30 °C
Output Formats	PLY , OBJ , STL , ASC , 3MF , GLTF , FBX
Material	Frame: Carbon Fiber Housing: Polycarbonate
Trackit SR Optical Tracking 3D Scanner	Tracker 
Part Size Range (Recommended)	0.01 - 4 m
Working Distance	800 mm - 2500 mm
Minimum Tracking Frame	587 × 569 mm @ 800 mm
Maximum Tracking Frame	2075 × 1778 mm @ 2500 mm
Tracking Volume	3 m^3
Weight	1.5 kg
Dimensions (L × W × H)	441 × 111 × 103 mm
Tracking Band	NIR

Specifications

Robot		Vbot 9 
Load		5 kg
Working Radius		919 mm
Weight		17.5 kg
Number of Axes		6
Maximum TCP Speed		≤2 m/s
Operating Temperature		0°C ~ +50°C
Storage Temperature		-10°C ~ +55°C
Maximum Humidity		0%~93%, non-condensing, non-frost
Joint Range of Motion (ROM)	Axis J1	±360°
	Axis J2	±135°
	Axis J3	-170°~ +140°
	Axis J4	±360°
	Axis J5	±360°
	Axis J6	±360°
Single-Joint Speed	Axis J1-J6	180°/s
Noise level		≤70dB(A)
Control Type		Built-in

Note

① Volumetric Accuracy are acquired in a controlled lab environment. Actual results might vary, subject to the operation environment.
② Class 2 Laser Safety Tips:
1) The product uses a Class 2 laser projector. Avoid looking directly at it at close range! Please refer to the Class 2 laser standard document for details. 2) To avoid retina damage, don't look directly into the laser beam through optical instruments capable of magnifying it (e.g., telescopes, and camera lenses). 3) To prevent laser reflection, avoid placing reflective surfaces like mirrors or glass in the path of the laser beam.
③ To ensure accuracy, it's recommended to use the product within an environment temperature range of 20°C to 25°C (68°F to 77°F).
④ This product has flashing lights, which may not be suitable for people with photosensitive epilepsy.

Metrohub 09YU Specifications

Metrohub 09YU Robot 3D Scanning System	
Main components	MetroY Ultra 3D Scanner, Robot Vbot 9
Metrohub 09YU Volumetric Accuracy①	0.015 mm + 0.04 mm × L (m)
Scannable Object Dimensions	∅500 mm × H 500 mm
Worktable Mounting Dimensions (L × W × H)	90 × 90 × 80 cm
Robot Arm Operating Radius	919 mm
Shipping Dimensions	91 × 55 × 52 cm
Total Weight	39 kg
Scanner	MetroY Ultra 
Technology	Multi-line Laser Scan and Full-field Structured Light Scan
Scannable Object Size	Small to Medium
Single-frame Precision, up to	0.01 mm
Single-frame Accuracy, up to	0.015 mm
Volumetric Accuracy	0.015 mm + 0.04 mm × L (m), L is the length of the object.
Fused Point Distance, up to	0.05 mm
Working Distance	200 ~ 400 mm
Single Capture Area at Nearest Distance	152 × 138 mm at 200 mm
Single Capture Area at Furthest Distance	332 × 276 mm at 400 mm
Minimum Scan Volume	10 × 10 × 10 mm
Maximum Scan Volume	2 × 2 × 2 m
Scanning Speed, up to	NVIDIA GPU：90 fps　CPU：60 fps
Point Return Rate	Multi-line Laser Scan: 3,000,000 Points/s Full-field Structured Light Scan: 7,000,000 Points/s
RGB Camera Resolution	2 Megapixels
Tracking Methods	Global Marker
3D Light Source	34 Blue Cross Laser Lines 15 Blue Parallel Laser Lines 1 Blue Deep Hole Single Laser Line 62 Line Blue Full-field Structured Light

Specifications

Robot		Vbot 9 
Load		5 kg
Working Radius		919 mm
Weight		17.5 kg
Number of Axes		6
Maximum TCP Speed		≤2 m/s
Operating Temperature		0°C ~ +50°C
Storage Temperature		-10°C ~ +55°C
Maximum Humidity		0%~93%, non-condensing, non-frost
Joint Range of Motion (ROM)	Axis J1	±360°
	Axis J2	±135°
	Axis J3	-170°~ +140°
	Axis J4	±360°
	Axis J5	±360°
	Axis J6	±360°
Single-Joint Speed	Axis J1-J6	180°/s
Noise level		≤70dB(A)
Control Type		Built-in

Note

① Volumetric Accuracy are acquired in a controlled lab environment. Actual results might vary, subject to the operation environment.
② Class 2M Laser Safety Tips:
1) The product uses a Class 2M laser projector. Avoid looking directly at it at close range! Please refer to the Class 2M laser standard document for details. 2) To avoid retina damage, don't look directly into the laser beam through optical instruments capable of magnifying it (e.g., telescopes, and camera lenses). 3) To prevent laser reflection, avoid placing reflective surfaces like mirrors or glass in the path of the laser beam.
③ To ensure accuracy, it's recommended to use the product within an environment temperature range of 20°C to 25°C (68°F to 77°F).
④ This product has flashing lights, which may not be suitable for people with photosensitive epilepsy.

REVOPOINT

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