GLOBAL Speed

High-throughput measurement of complete part surfaces with high measuring point density

Application class

High-throughput capture of complete part surfaces in point clouds

Typical part and feature characteristics

- Freeform surfaces
- Multi-material surfaces
- Full surface form deviation analysis with actual to nominal comparison
- Reverse engineering

Application examples

- Hairpins
- Turbine blades
- Medical implants
- Housings, covers
- Plastic mouldings
- Car body and chassis parts
- Stamped-bent parts
- Casting moulds, castings

How the GLOBAL Speed builds

Base system

HP-L-10.10
Laser scanning sensor

HH-AS-T2.5 / H2.5
Motorised 2.5° indexing probe head

HP-THDe
Touch-trigger probe

PC-DMIS CAD++

HR-R
Sensor/probe module/styli changer rack

Eco Mode

- Ready-to-use system for high-throughput measurements of complete part surfaces
- Seven different cross sections available
- Targeted metrology solution dedicated to specific applications

Options

HP-S-X1S / H
Tactile scanning probe head

HP-OW
White light sensor

HP-C-TS5.10
Camera sensor

MAC
Manual switch between indexing and fixed probe heads

Rotary table
Angular part positioning

XT (extended temperature)
Near-line measurement

PULSE wireless
Real-time environmental monitoring

Eco Mode+

Messaging lights

Accuracy+ | Throughput+

- Tailored to individual application needs

Enhancement packages

Auto Create

Cycle Time

Reporting

Industrial Integration

Automation

Traceability

Adaptability to individual production objectives

- Smart features for targeted productivity enhancements
- Pre-bundled and anytime applicable

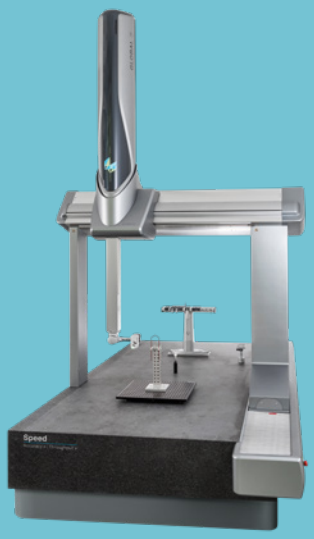
GLOBAL S and Advantage bridge-type CMMs

GLOBAL S and Advantage CMMs are designed to be fast and are built on advanced design principles to inspire certainty and confidence.

- Solid granite base with integrated dovetail guide, bridge with triangular crossbeam and air bearings on all axes for precise and repeatable high speed measurements
- Extended operating temperature range option and real-time temperature compensation for reliable measurements even with temperature fluctuations

GLOBAL S and Advantage CMMs are designed to be configurable for the measurement task at hand.

- Future-ready modularity: Enhancement options can be selected during initial CMM configuration or set up later to the in-service machine, allowing for scalable and adaptable system performance over the entire lifecycle



Manufacturer challenges

- Point cloud capture and full dimensional inspection of entire part surfaces with high speed and accuracy
- Accurate, reliable and traceable 3D measurements
- Tight integration of the CMM into smart production environments
- Ease of CMM operation to reduce the need for skilled labour
- Local service and support

GLOBAL Speed: Solving customer challenges

- HP-L-10.10 laser scanning sensor on a motorised indexing probe head allows for high speed and high point density when capturing complete part surfaces
- Full integration with PC-DMIS metrology software: Optimised workflows and unique functions across the entire range of scanning operations, including program development, part measurement and results analysis
- ISO 10360 standard-compliant 3D accuracy specification
- Standardised integration kits ranging from half-automated part loading to fully automated solutions maximise CMM utilisation and increase throughput
- Seamless integration with Hexagon's IoT technologies for remote asset and environment monitoring
- Simplified INSPECT operator interface with real-time graphical reporting ensures intuitive operation, minimising the risk of data input and interpretation errors
- Maximum CMM availability through Hexagon's global service and support network

What to ask when the competition claims...

... to be cheaper

- Does the system offer future-ready modularity?
- Can the system easily connect to automation integrators?
- Does the system's accuracy specification conform to ISO 10360 standards?
- Does the system perform well in the 15°C - 30°C operating temperature range without needing a costly climate room?
- Is real-time CMM status, usage and performance data included with the system?
- Does the system provide energy-saving features as standard?

... to provide systems easier to use

- Is a simple operator interface for shop-floor inspection included as standard?
- Does the system provide centralised reporting and visualisation functionality?
- Can the system alert the operator to environmental events such as crash events, vibrations, humidity and temperature spikes?

... to offer laser scanning as standard

- Can the sensor capture up to 600 000 pts/sec with a probing form error of 8 µm?
- Does the system automatically adjust exposure settings to the measured surface?
- Does the sensor offer a built-in overview camera? A visual guide indicating the sensor's working range? Variable scanning speed and flexible standoff to adapt for critical part areas? Extended field-of-view?

Other Hexagon solutions

- **Leitz Reference CMMs** for high-accuracy measurements of tight tolerance parts
- **OPTIV M multisensor CMMs** All-in-one metrology solutions with vision, touch probe and optical white light sensor
- **Leitz PMM-C CMMs** Premium metrology devices for highly precise measurements with sub-micron accuracy