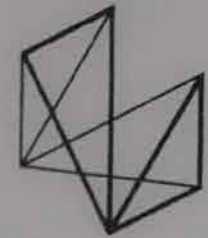


HP-L-8.9 LASER SCANNER

Cost-effective laser scanning for the ROMER Absolute Arm





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METROLOGY

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MAKING LASER SCANNING ACCESSIBLE TO ALL

The HP-L-8.9 is an affordable 3D laser scanning solution which extends the measurement capability of the ROMER Absolute Arm range into a wider variety of industry applications.

Compatible with all 6-axis models of the Hexagon Metrology portable coordinate measuring machine (PCMM), the HP-L-8.9 can be mounted at low cost on to any 71, 73 or 75 series ROMER Absolute Arm in minutes. It offers high-speed non-contact 3D point capture at a great price/performance ratio, ideal for customers looking to expand their metrology capabilities into high-density data acquisition.

VERSATILE AND USER-FRIENDLY INSPECTION

Delivering more data, more quickly, laser scanning is a valuable addition to the inspection toolset. Capturing shape and surface geometries in 3D with minimal effort, scanning offers many operational benefits and enables new measurement applications in almost all manufacturing industries.

Affordable and easy to use, the HP-L-8.9 laser scanner is ideal for customers who want to add point-cloud measurement to their metrology arsenal without causing costly equipment downtime or creating a large training requirement.

HP-L-8.9 features at-a-glance

- High-speed non-contact 3D laser scanner
- Integrated new-concept range finder for ease-of-use
- Long stand-off distance for scanning inside difficult to reach cavities
- Automatic repeatable probe recognition with no need for calibration
- No reference markers required
- Scans even challenging surface types like leather, aluminium or carbon fibre
- Compatible with all major portable scanning software

Quick installation and setup

Designed for easy integration, the HP-L-8.9 can be retrofitted to a 6-axis ROMER Absolute Arm on the shop floor without any factory modifications. Because no reference markers or surface preparations are necessary, it can be ready to scan in minutes. The HP-L-8.9 can be supplied as part of a turnkey solution and is compatible with all major portable metrology software.

User-friendly operation

A portable unit with simple plug and play functions and ergonomic features, the HP-L-8.9 enables operators to measure successfully with minimal training. The range finder guides users to the optimum distance while high-grade optics guarantee repeatable data capture, even on tricky materials like carbon fibre. With such light workload, operator variability becomes a thing of the past.

Extends measurement capabilities

Allowing quick switches between tactile probing and laser scanning, the HP-L-8.9 adds new application potential to the arm by giving users the best inspection tool for every job. Complex freeform objects and malleable parts can be scanned quickly, while the ROMER Absolute Arm's touch probe ensures maximum accuracy for feature measurement.

HP-L-8.9 Laser Scanner Specifications

Accuracy	40 µm 2 sigma
Point acquisition rate	45 000 points per second
Points per line	750
Line rate	60 Hz
Line width (mid-field)	80 mm
Stand-off distance	135 mm +/- 45 mm
Minimum point spacing	0.08 mm
Laser power adjustment	Semi-automatic



ACCESSING NEW APPLICATION POTENTIAL

Offering fast, non-contact data capture in an affordable and user-friendly package, the HP-L-8.9 opens up a whole range of new applications for the 6-axis ROMER Absolute Arm family. The increased potential ensures better equipment productivity to give a quick return on investment for both the scanner and the arm.

Product benchmarking

For benchmarking, the ability to record feature details is essential. A long stand-off distance of 90 mm and reliable scanning on dark surfaces make the HP-L-8.9 ideal for recesses and cavities like car door pockets or dashboard features.

Automotive and aerospace seating

With the flexible ROMER Absolute Arm enabling seat measurement after installation and with test dummies in place, scanning provides an accurate and repetitive way to record the easily-distorted soft seat forms. Quick probe changes ensure 'H' points can be measured by the touch probe in the same software session.

Product design and styling

For polystyrene or clay styling mock-ups, the HP-L-8.9 provides an accurate way to record modifications and return the changes to a CNC and CAD compatible file, even with complex models where accessibility is a problem. This means not only faster design iterations, but also less design iterations.

Casting and forging

Scanning rough castings and forgings before machining enables operators to check for minimum material requirements on the spot, saving valuable machine time and reducing scrap. Ideal for operating in tight spaces, the HP-L-8.9 and ROMER Absolute Arm can also be used to align castings under a CNC machine.

Jigs and fixtures

The ROMER Absolute Arm has a proven track record inspecting jigs and fixtures in the sheet metal and plastics industries. Adding the HP-L-8.9 scanning functionality allows not only the fixture to be checked, but also the freeform part itself.

Archaeology and cultural heritage

Non-contact and with no surface preparation required, the HP-L-8.9 is perfect for scanning objects of cultural interest without damaging them. Applications include digital archiving, virtual museums, degradation visualisation and the production of bespoke packaging.

Development of aftermarket components

3D scanning is the quickest way to create CAD-friendly data of a donor part. No matter how complex the workpiece shape or material, the HP-L-8.9 can reverse engineer surface information from the physical world into CAD efficiently, making it easier to design around any pre-existing geometries.

Reverse engineering

While laser scanning is ideal for complex surfaces, touch probes are usually better for geometric features like holes or mating planes. To reverse engineer with accurate 3D data from a physical part, interchangeability is key. The repeatable mounting of the ROMER Absolute Arm means the HP-L-8.9 can be switched for a probe in a single software session with no calibration or downtime.

Maintenance, repair and overhaul (MRO)

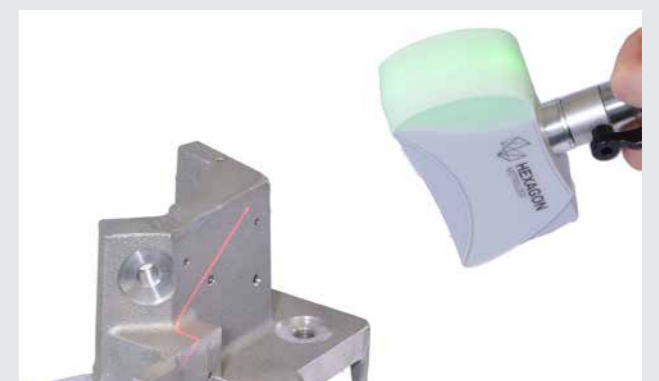
The HP-L-8.9's high-density point capture enables wear-and-tear analysis to be performed on the shop floor so that custom repairs and modifications can be quantified almost immediately.

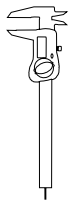
Virtual assembly

With easy switches between the HP-L-8.9 and touch probes, digital models of multiple parts can be aligned into the same 3D coordinate system in a software session. This enables virtual assemblies to be rapidly created and checked.

3D printing and rapid prototyping

The HP-L-8.9's high scanning speed makes it possible to create printer-compatible 3D mesh files in no time. Prototypes can be checked against CAD data in minutes, making the scanner invaluable in part development applications.

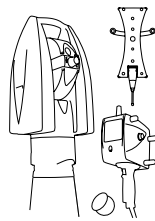




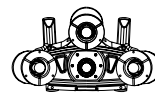
PRECISION MEASURING INSTRUMENTS



PORTABLE MEASURING ARMS



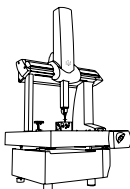
LASER TRACKERS & STATIONS



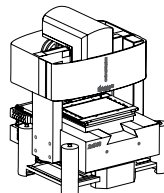
WHITE LIGHT SCANNERS



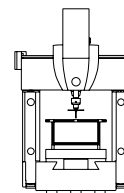
SENSORS



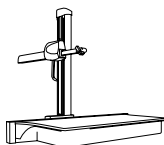
BRIDGE CMMS



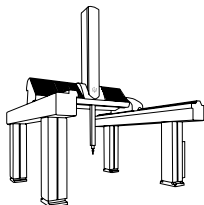
MULTISENSOR & OPTICAL SYSTEMS



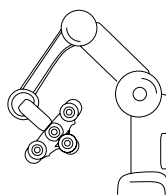
ULTRA HIGH ACCURACY CMMS



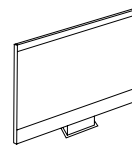
HORIZONTAL ARM CMMS



GANTRY CMMS



AUTOMATED APPLICATIONS



SOFTWARE SOLUTIONS



HEXAGON METROLOGY

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