

HEXAGON METROLOGY WLS400M





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Hexagon Metrology's White Light technology utilizes digital imagery and cutting edge algorithms to accurately capture 3D geometries of real life objects for supporting quality inspection and reverse engineering operations.



WLS400

KEY BENEFITS

- Large area coverage with every single shot
- Rapid non-contact data acquisition
- Versatile use in manual and automated applications
- Accurate and reliable operation in shop-floor conditions
- Gathers rich and comprehensive dimensional information



White light Technical principle

The WLS400 sensor projects a random pattern on the object and triggers a simultaneous capture of the area of interest by its cameras. The images are correlated using proprietary algorithms to create a 3D point cloud representation of the area. The sensor also acquires clear black-and-white images used for accurate measurement of specific features such as holes and edges. By combining sensor technology with CoreView software the system can generate a unified 3D inspection report for small to large objects.



Sensor technology

The WLS400 is the next generation of Hexagon Metrology White Light sensors featuring the latest technologies including high-resolution digital cameras, LED-based illumination, carbon-fiber structure, and rapid data-acquisition and processing.



HEXAGON METROLOGY WLS400M

The Hexagon Metrology WLS400M white light measurement system is a manually operated system used for 3D metrology, quality inspection and digitizing. The system features unique measurement capabilities which emphasize its value for multiple industrial applications.



The BeeTex pedestal specially designed for the Hexagon Metrology WLS400M is a portable, stable platform which allows users to reach both small and large objects with ease and with minimal repositioning.



The system is operated using a high performance Laptop which can be undocked for off-line operations in addition to serving as an analysis / reporting station.



The Hexagon Metrology WLS400 controller is easily mounted on the pedestal and connects with high speed communication to the optical head and laptop.



The rigid carbon fiber based sensor structure offers a stable and protected support for all optical components ensuring high reliability in demanding conditions. Hexagon Metrology WLS400M is the only white light system to operate in hand-held mode with direct triggering.





PORTABILITY

Hexagon Metrology WLS400M features improved portability and usability in production floor environment

- Light optical head
- Smaller and lighter controller
- All in one system (all on pedestal)
- Laptop compatible
- Small packaging
- Fast assembly, dismantling
- Tools-free



On the production floor

- All in one pedestal
- The Hexagon Metrology WLS400M pedestal was devised to provide maximal accessibility in terms of reach and maneuvering. In addition, the system has the unique feature of supporting free hand-held operation.
- One person operation
- Fast switchover to handheld mode



Getting ready

- Assembly and dismantling by single person in less than 10 minutes
- Rapid attachments, Tools free operation and quick start-up process
- Quick system calibration process

HI-FI 3D METROLOGY IN INDUSTRIAL CONDITIONS

Robust metrology performance on the shop floor

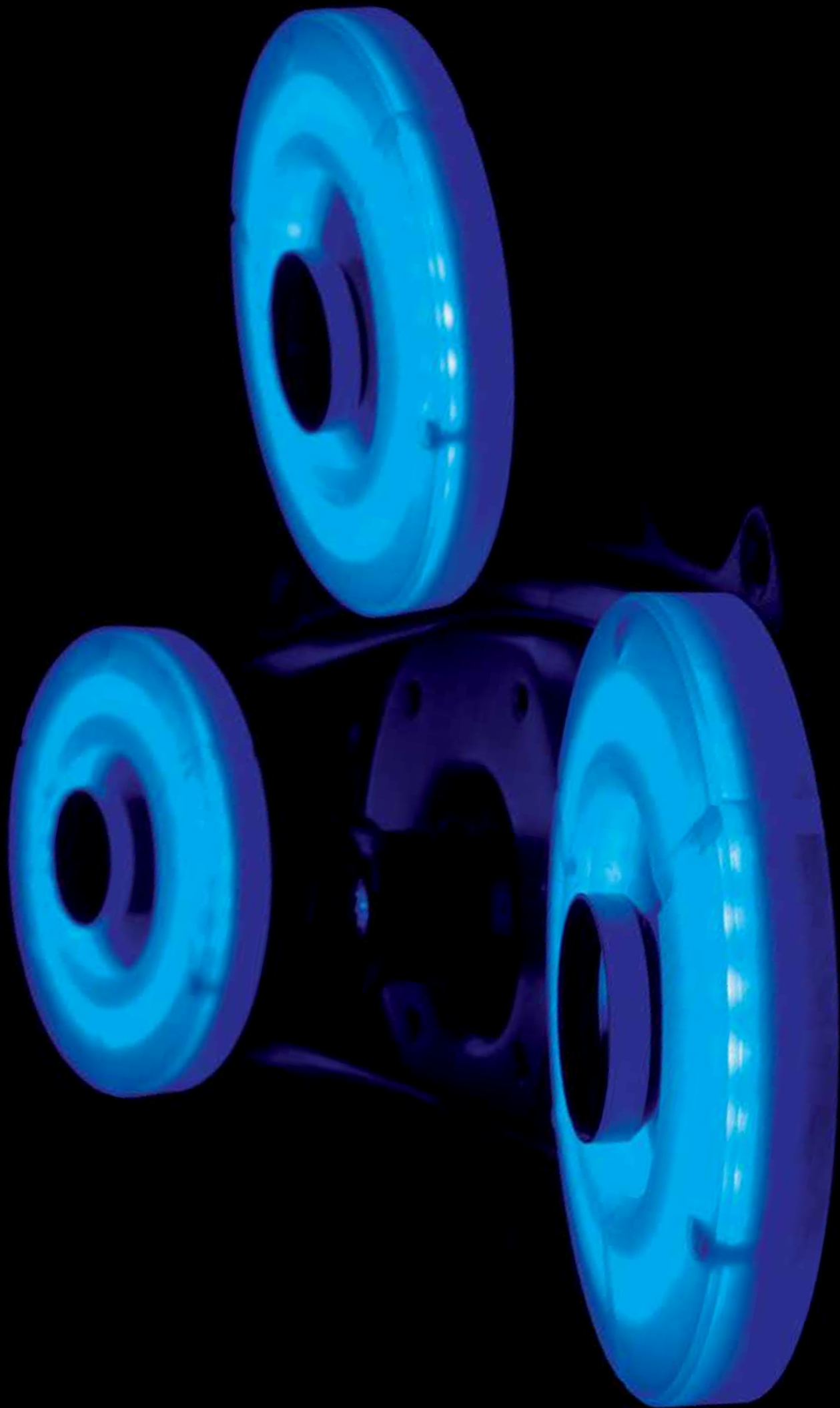
The Hexagon Metrology WLS400M metrology system blends accurate measurement technology with robust mechanical design to meet the demanding conditions of industrial shop floors.

The system features

- Shop floor operation by line workers
- Unique hand held mode for confined space
- Immunity to most direct and ambient industrial lighting
- Resistance to heavy machinery vibrations
- Direct accessibility to production line / stations
- Fast shop floor calibration process
- Ability to measure and digitize wide range of materials and finishing technologies
- Reliable operation in wide range of temperature conditions
- Optical sensor robustness to withstand mechanical strains
- Hexagon Metrology WLS400M components can be packaged into small cases easy to carry and transport in any mid-size car.



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LED TECHNOLOGY INSIDE

The Hexagon Metrology WLS400 sensor features advanced LED (Light Emitting Diode) technology to allow highly reliable measurements in demanding conditions.

Hexagon Metrology WLS400 integrated LED technology provides

- High intensity illumination source
- All illumination modules inside the optical sensor
- Increased system reliability and component lifespan
- Rapid triggering and image acquisition
- Enhanced system throughput
- Safe, low voltage electrical components
- Improved light uniformity for 3D surface measurements

TECHNICAL SPECIFICATIONS

Cameras

3 X 4.0 Megapixel digital cameras designed for industrial applications
Protected by rigid and temperature stable carbon fiber housing

Projection & 3D Reconstruction Technology

Random Pattern Projection

Rapid Shot Stereo Vision Technology

Integrated 2D & 3D technology for fast and accurate surface and features measurement

Illumination

LED based high power illumination. Reliable and durable.

System operation

Field of view	500 x 500 mm / 19.7 x 19.7 in.
Depth of Field	230 mm / 9.1 in.
Optimal Working Distance	780 mm / 30.7 in.

Dimensions

WLS400 Optical Head [WxHxD]	550 x 265 x 280 mm / 21.7 x 10.4 x 11.0 in.
WLS400 Controller [WxHxD]	510 x 210 x 245 mm / 20.1 x 8.3 x 9.7 in.

Weights

Optical Head	8 kg / 17.6 lbs.
Control Cabinet	7.5 kg / 16.5 lbs.

Electrical compatibility

Voltage	100 - 230 VAC, 50 - 60 Hz
Power	0.7 kW - at peak consumption

Working environment conditions

Operating temperature	5 - 35° C / 41 - 95° F (limited by PC/Laptop specification. Can be enhanced with cooling systems)
Operating lighting conditions	Low sensitivity to industrial lighting, ambient light sources and non direct daylight
Structure/facility vibrations	Designed for operation in industrial environment with heavy machinery (stamping press, CNC, robotics, etc).

Periodic system certification

On site yearly calibration and certification to traceable artifacts

Software

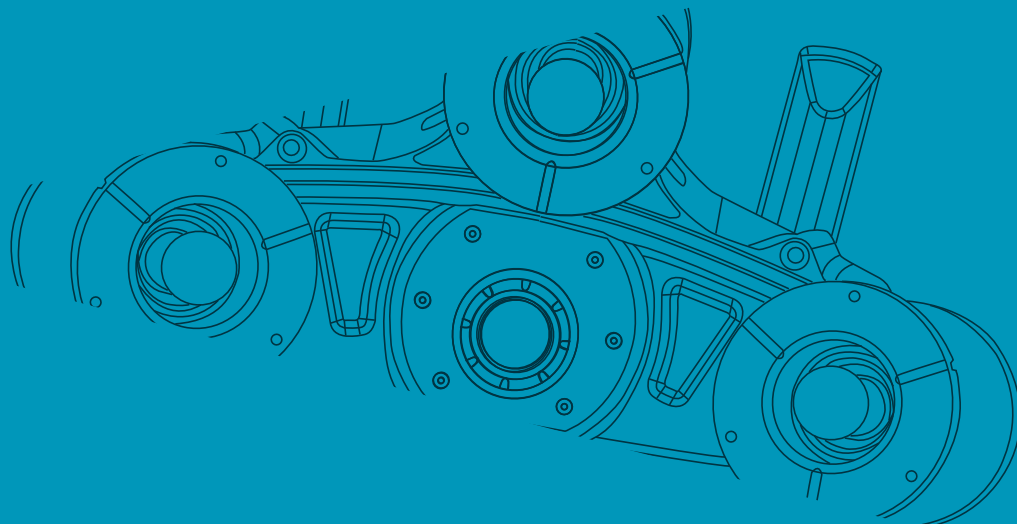
Operating System	Windows 7
Computing platform	Laptop or PC
System Software	CoreView™ by Hexagon Metrology

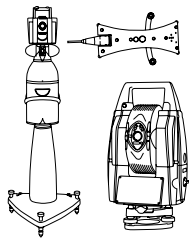
Certifications & standards

CE / TUV
NEMA12
VDI/VDE 2634 Part 2 standard for optical measurement systems
Traceability to NIST metrology standard artifacts
ISO 9001:2000

Patents

The WLS400 sensor and supporting CoreView software suite is based on innovative and unique technology developed by Hexagon Metrology. These products are protected by multiple approved patents and other pending patent applications.

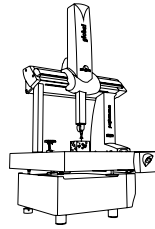




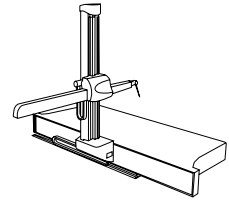
LASER TRACKERS & STATIONS



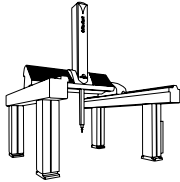
PORTABLE MEASURING ARMS



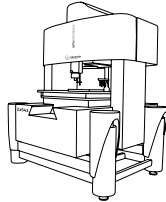
BRIDGE CMMS



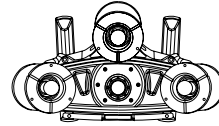
HORIZONTAL ARM CMMS



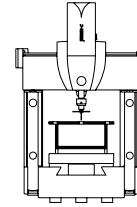
GANTRY CMMS



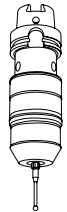
MULTISENSOR & OPTICAL SYSTEMS



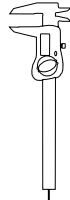
WHITE LIGHT SCANNERS



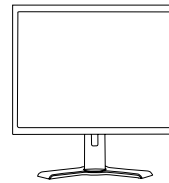
ULTRA HIGH ACCURACY CMMS



SENSORS



PRECISION MEASURING INSTRUMENTS



SOFTWARE SOLUTIONS



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Hexagon Metrology offers a comprehensive range of products and services for all industrial metrology applications in sectors such as automotive, aerospace, energy and medical. We support our customers with actionable measurement information along the complete life cycle of a product – from development and design to production, assembly and final inspection.

With more than 20 production facilities and 70 Precision Centers for service and demonstrations, and a network of over 100 distribution partners on five continents, we empower our customers to fully control their manufacturing processes, enhancing the quality of products and increasing efficiency in manufacturing plants around the world.

For more information, visit www.hexagonmetrology.com

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