

# BLAZE 600M

HIGH-ACCURACY BLUE LIGHT MEASUREMENT SYSTEM



# BLAZING SPEED, DAZZLING PERFORMANCE

The BLAZE 600M portable blue light measurement system from Hexagon Manufacturing Intelligence is a high-speed, non-contact optical 3D scanning solution for rapid data acquisition on the shop floor. Combining high-resolution digital imaging with blue light LED illumination, it offers precision inspection in a robust and flexible package.

Designed to improve productivity through efficient and accurate digitisation, BLAZE 600M uses proven technology augmented with new innovations to maximise the accuracy of feature and point cloud data. Three high-resolution cameras capture digital imagery to generate a 3D model of the measured part, even in challenging workshop conditions. Fast data capture means the scanner is virtually immune to the effects of vibrations or changes in ambient light while its all-in-one design allows the system to fit in a single box for operation wherever it is needed.

Featuring adjustable measurement fields, multiple data acquisition modes and two configuration options, BLAZE 600M is easily adapted to different tasks and material types, with no need for part treatment. Ideally suited to measurement and reverse engineering applications, BLAZE 600M is an advanced yet easy-to-use system that delivers rapid results.



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# PRODUCTIVITY THROUGH FLEXIBILITY

BLAZE 600M is Hexagon Manufacturing Intelligence's most adaptable optical scanning solution to date. Bringing quality-room accuracy and flexible operating modes to intensive shop-floor applications, it provides actionable information to support multiple processes throughout the product lifecycle.



## At a Glance

- Three high-resolution, high-data rate cameras
- Advanced blue LED technology for reliable results
- Larger measurement area coverage with a variety of measurement field sizes
- Multiple data acquisition and reconstruction methods
- Ergonomic all-in-one design for portability and easy solo operation
- Effective on shiny, black and composite material parts without surface treatment
- Unaffected by vibration or changes in ambient light



## Highly Accurate and Flexible System

BLAZE 600M is manufactured and certified for high-level accuracy. Featuring multiple data acquisition modes and measurement field size settings, the system can be set up to ensure the best possible repeatability and accuracy for the task. Accuracy remains high even at maximum measurement field sizes, enabling increased productivity without compromising on quality. Enhanced projection technology ensures better dimensional measurement performance and point cloud data capture even on shiny or dark surfaces, while high-quality 3D meshing supports reverse engineering applications.

## Portable and Easy to Use

BLAZE 600M requires just a small power supply unit and a laptop and it's ready to go. The entire system fits in a single flight case, so accurate measurements can be taken exactly where they are needed. There are no special tools for setup and no spray or powder surface preparation is required, so the system can be set up and measuring within minutes. The scanner is designed to be used by a single operator, and user-friendly features ensure ease of use.

## Supports Workshop Productivity

BLAZE 600M's flexibility, portability and simplicity, coupled with advanced technology features for outstanding data quality, make the system a highly-efficient and productive metrology tool in any workshop. The rapid data capture and large area coverage with every shot ensure ultra-fast operations and the portable system means inspection can take place right at the point of production, minimising the potential for bottlenecks and keeping production flowing.



# TECHNOLOGY REIMAGINED

BLAZE 600M is the latest generation of Hexagon Manufacturing Intelligence non-contact inspection solution. Based on short wavelength blue light LED illumination technology to ensure image clarity and immunity to changes in ambient or external light, it uses high-resolution digital cameras to rapidly construct accurate 3D data.

The robust system works by rapidly projecting various patterns on to the part and simultaneously capturing the area digitally. The images are reconciled in the software to create an accurate 3D model, while 2D images are processed to ensure the most accurate feature measurement possible.

BLAZE 600M is the only solution that has the benefits of stereovision and structured light technologies built into a single, easy-to-operate system. These complementary technologies enable users to select working modes optimised for the application, whether it is dimensional measurement and 3D modelling or reverse engineering capabilities.

Drawing on Hexagon's proven white light measurement technology and engineered for improved performance, BLAZE 600M maintains accuracy over larger areas to reduce inspection times and support productivity targets. The scanner's new data acquisition modes ensure better performance on feature measurement and point cloud digitisation, higher 3D meshing quality and improved material acceptance.





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# SUPPORT THROUGHOUT THE PRODUCT LIFECYCLE

With the fastest data acquisition of its kind in the marketplace, BLAZE 600M supports the fast-paced product lifecycle of the automotive and aerospace industries across various phases from design to production and maintenance, repair and overhaul operations. It is also a highly-effective dimensional inspection tool for other manufacturing applications, particularly because of its versatility and ability to measure sheet metal, composites and plastics.

## Measurement and Inspection

Whether it's metallic automotive bodywork, moulded plastic interior features, aerospace-grade composites or tooling, mould and die inspection, BLAZE 600M has the right setting to quickly and accurately digitise the component for comparison to CAD and required tolerances.

## Product Design and Ramp Up

3D scanning is the ideal way to record modifications in design models and return them to CAD. BLAZE 600M supports this approach to enable faster design iterations and cut costs during research and development.

## Rapid Prototyping

BLAZE 600M's improved 3D meshing capability enables the creation of printer-compatible files and allows prototypes to be easily checked, supporting rapid part development operations.

## Casting

Inspecting rough castings prior to machining helps operators to ensure optimum material requirements, reducing machining times and minimising the amount of material wastage and scrap.

## Reverse Engineering

BLAZE 600M's advanced technology configuration supports the dynamic performance required in reverse engineering applications. Capturing more detail and providing better 3D meshing data, this setup is perfect for reverse engineering.

## Maintenance, Repair and Overhaul (MRO)

The advanced point cloud data acquisition of BLAZE 600M supports wear analysis when and where the problem occurs, allowing users to design and cost repairs and modifications based on accurate information.





# TECHNICAL DATA

## Cameras

- 3 x 12.0 megapixel high data rate digital cameras designed for industrial applications and optimised for metrology
- Optical components are protected by a temperature-stable rigid housing

## Projection and 3D Reconstruction Technology

- Rapid shot stereovision technology
- Advanced pattern projection options: Dynamic Slide or Digital Light Processing (DLP) projection configurations are available
- Integrated 2D and 3D technologies using image analysis and edge detection engines for fast and accurate surface and feature measurement

## Illumination

Reliable and durable LED-based high-power illumination

## Measuring Field Size Options

240 x 190 mm / 9.4 x 7.5 in

Depth of field 60 mm / 2.4 in

570 x 430 mm / 22.4 x 16.9 in

Depth of field 220 mm / 8.7 in

710 x 530 mm / 28.0 x 20.9 in

Depth of field 300 mm / 11.8 in

Additional measurement field options are available.

Optimal working distance 800 mm / 31.5 in

Point cloud spacing From 0.06 mm

## Dimensions and Weight

BLAZE 600M optical head [WxHxD] 528 x 296 x 366 mm / 20.8 x 11.7 x 14.4 in

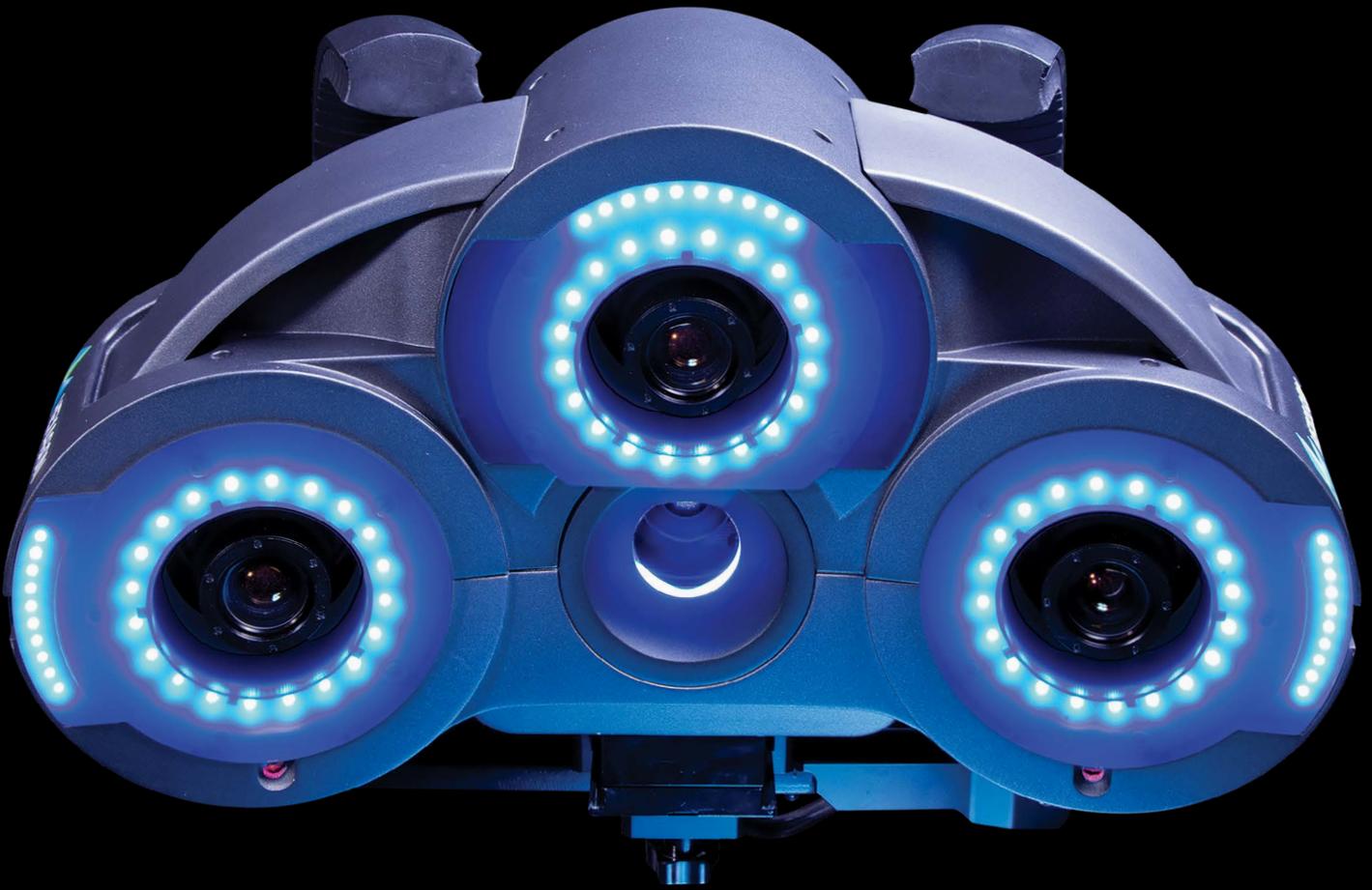
Power supply [WxHxD] 350 x 65 x 136 mm / 13.8 x 2.6 x 5.4 in

Weight 12 kg / 26.5 lb

## Electrical Compatibility

Voltage 100 - 240 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 indirect daylight
Structure/facility vibrations	Designed for operation in industrial environments with heavy machinery (stamping presses, CNC, robotics etc.).

#### **Periodic System Certification**

On site yearly calibration and certification to traceable artefacts

#### **Computer and Software**

Operating system	Windows 7 64-bit
Computing platform	64-bit laptop or desktop
System software	CoreView™ by Hexagon Manufacturing Intelligence

#### **Certifications and Standards**

CE / TUV / FCC  
VDI/VDE 2634 Part 3 standard for optical measurement systems  
Traceability to NIST metrology standard instruments  
ISO 9001:2000

#### **Patents**

The BLAZE 600M sensor and supporting CoreView software suite are based on innovative and unique technology developed by Hexagon Manufacturing Intelligence. These products are protected by multiple approved patents and other patent-pending technologies.



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MANUFACTURING INTELLIGENCE

Hexagon Manufacturing Intelligence helps industrial manufacturers develop the disruptive technologies of today and the life-changing products of tomorrow. As a leading metrology and manufacturing solution specialist, our expertise in sensing, thinking and acting – the collection, analysis and active use of measurement data – gives our customers the confidence to increase production speed and accelerate productivity while enhancing product quality.

Through a network of local service centres, production facilities and commercial operations across five continents, we are shaping smart change in manufacturing to build a world where quality drives productivity. For more information, visit [HexagonMI.com](http://HexagonMI.com).

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COORDINATE MEASURING MACHINES



3D LASER SCANNING



SENSORS



PORTABLE MEASURING ARMS



SERVICES



LASER TRACKERS & STATIONS



MULTISENSOR & OPTICAL SYSTEMS



WHITE LIGHT SCANNERS



METROLOGY SOFTWARE SOLUTIONS



CAD / CAM



STATISTICAL PROCESS CONTROL



AUTOMATED APPLICATIONS



MICROMETERS, CALIPERS AND GAUGES