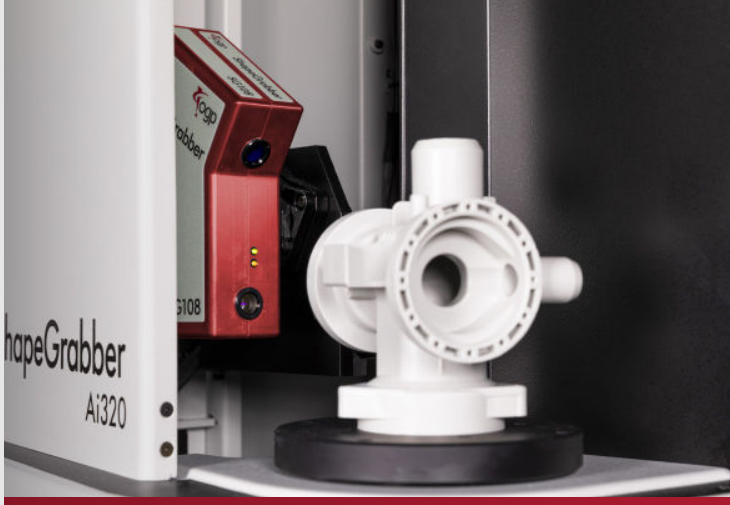
METROLOGY-CLASS 3D SCANNING SYSTEMS

SHAPEGRABBER

Fast, Simple Measurement

ShapeGrabber® 3D Scanners are designed for fast and easy operation, automating the task of measuring various parts with a non-contact, high precision, laser triangulation sensor.



EASY SETUP

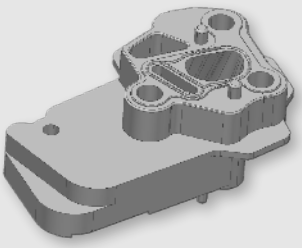
Parts are placed on the rotary table, with or without a fixture and with the aid of our automatic scan tools, a routine is configured and saved into libraries and setups that can be used over again.

SIMPLE OPERATION

Our software enables users with no prior experience to run automated inspection routines. We can also link to a robotic platform for unattended batch inspection of multiple parts.

A SIMPLE WORKFLOW

Manual scanning is usually tied to the skill of the operator. By contrast, our automated systems can be easily configured to follow a set routine that can be run by just about anyone, ensuring the consistency and accuracy of the results.

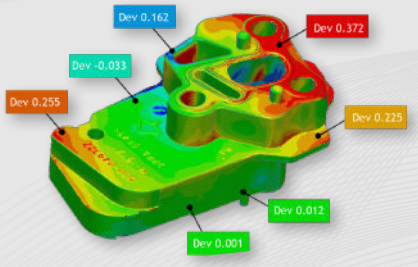


SCAN

Part is placed on the system, and parameters are set up automatically or optimized by the user. Setups are recorded for future use.

PROCESS

The system automatically scans the part and processes the data into a point cloud or single polygonal mesh.



REPORT

Data is evaluated into the inspection module and aligned to a reference model. Preset measurements are extracted and an inspection report is generated.

AUTOMATE

All the steps are automatically recorded into a process script. The entire program can be run by a user or a robot to inspect additional parts.

Flexible

Automated ShapeGrabber 3D scanners can be easily configured, operated, and adapted to meet your quality inspection needs, ensuring repeatable and reliable results.

ADAPTABLE

Our systems can accommodate different parts sizes and applications. They can also capture a large variety of surfaces and complex geometries.

TURNKEY SOLUTION

We provide a ready to use package that includes everything you will need to capture and evaluate scanned parts, including computer, hardware, software, system familiarization, and calibration.

SCALABLE

Automated 3D scanners allow you to expand capacity by adding new units that share inspection routines and can be integrated into production lines as fully automated inspection cells.

A METROLOGY READY SOLUTION

ShapeGrabber 3D scanners are ideal for quality control as they allow you to rapidly measure and inspect complex parts. Our industrial scanners provide 3D scan data using a fraction of the time and resources compared to more traditional methods.

Accurate

Our systems are built with precision in mind. Applying our in-house engineering experience, we have created a range of metrology grade 3D scanners that can be used to quickly and reliably measure parts for a variety of industries and manufacturing processes.

SOLID CONSTRUCTION

Systems are built to be physically robust and handle heavy loads. The linear and rotary components are calibrated as a whole to provide accurate scan data without the need for target stickers or external trackers.

PRECISION OPTICS

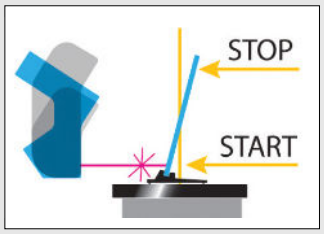
Applying our longstanding knowledge in optical engineering, we have designed scanheads that are exceptionally fast, accurate, and with a wide dynamic range.

TRACEABILITY

ShapeGrabber systems include a NIST traceable verification artifact and follow industry-accepted procedures to provide verified and documented measurement capabilities.

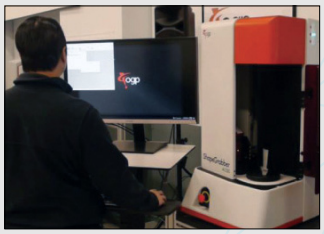
SG SmartCapture

Our SG SmartCapture software provides a user-friendly platform to easily capture part information and compare it to reference geometry.



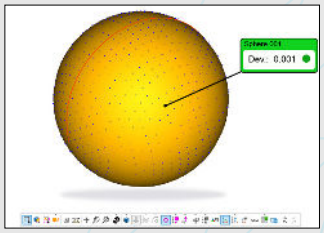
AUTO SETTINGS

Our new automatic tools can detect laser intensity and scan volume settings. Record and customize scripts to automatically run a full inspection program or output a data set as an STL or PSL file.



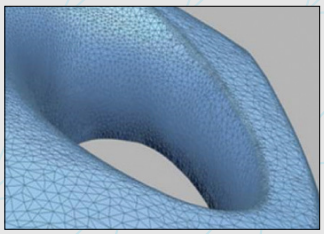
ONE BUTTON OPERATION

You can create custom scripts that allow anyone to automatically scan, process data, and measure parts.



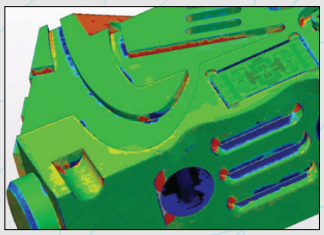
BUILT-IN VERIFICATIONS

Inspect the integrity and accuracy of scan data inside the software, through color deviation maps and scan preview controls. All OGP® ShapeGrabber systems include a NIST traceable accuracy verification artifact and embedded verification routine giving the user confidence in their measurement results.



AUTOMATIC MESH CREATION

Process and align scan sets and export them as an STL file to be used for further analysis or for reverse engineering.



COLOR COMPARISON

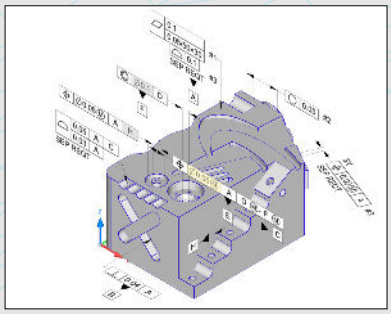
Compare the results of a scan to a reference CAD model or to an existing known part inside the software. A very common application for ShapeGrabber systems is to measure a known good “golden part” and compare subsequent parts using the included color deviation map tool.

ROBOTIC INTEGRATION

Add SmartSCS Software to transform your scanning system into a self-running automated inspection cell.

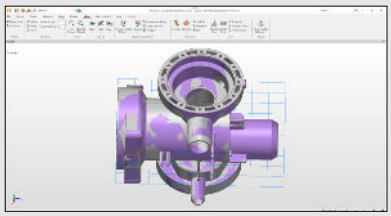
SOFTWARE OPTIONS

ShapeGrabber 3D scanners include SG SmartCapture software to collect and process scan data. We also offer a variety of software options to increase the functionality of your scanning system.



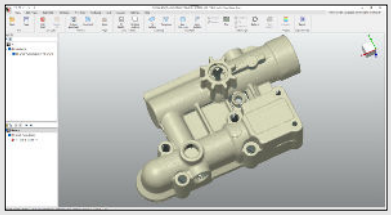
SMARTPROFILE®

Quickly assess part tolerances and processes to improve production. SmartProfile is the world's leading dimensional analysis software combining measurement data with the CAD model of the part and automatically runs GD&T (ASME Y14.5) and GPS (ISO 1101) evaluations.



POLYWORKS PLUGIN

Our new ShapeGrabber plugin supercharges PolyWorks, allowing you to configure and run our systems directly inside PolyWorks Inspector and automatically generate inspection results.



QUICKSURFACE

Use ShapeGrabber scan data in this intuitive reverse engineering package to create surface and solid CAD models. STEP file generation tools included.

Common 3D Scanning Applications

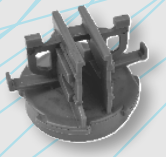
Compatible with a wide variety of textures, materials, and colors almost always without spray and never with targets.

Consumer Products

Aerospace/Aviation

Injection Molding

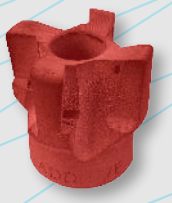
Engineering



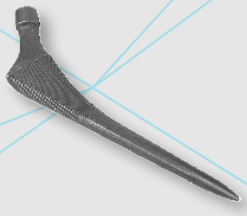
Reverse Engineering

Automotive

Additive



Medical



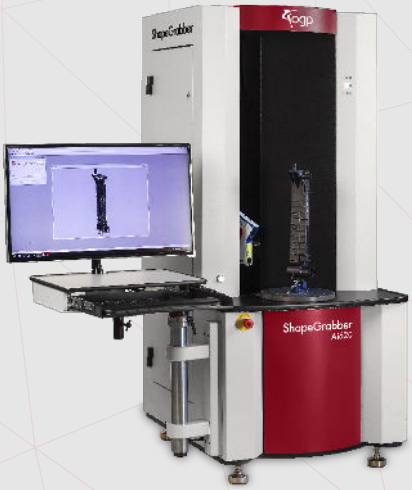
SYSTEMS

ShapeGrabber 3D Laser Scanning systems deliver fast, – up to 1,500,000 pts/s – accurate and automated 3D measurement. All ShapeGrabber 3D Laser Scanning systems share the ability to produce detailed surface characterizations of complex parts, quickly, and accurately. They are all easily programmed for repetitive part measurements, with no need for software alignment and registration. All ShapeGrabber systems collect accurate, high density point data, and provide reports of results. ShapeGrabber systems can achieve volumetric scan accuracies as low as 6 µm with a scan repeatability of 2 µm*.

Ai320

ShapeGrabber's Ai320 automated, compact benchtop 3D scanners are well suited for industrial applications in which accuracy, speed and ease of use are important. Using precision linear motion to drive the scanhead, optional scanhead tilt axis for additional scan angles, and precision rotary table for part positioning.

Measuring Range: 300 L x 100 ø mm



Ai620

ShapeGrabber Ai620 3D scanners are a floor-mount system that delivers unprecedented levels of speed, data quality and resolution. It is easy to use and includes a robust enclosure with an integrated, optional monitor stand.

The Ai620 derives its inherent accuracy by combining a highly rigid and stable mechanical structure, high precision vertical and rotary motion, state-of-the-art calibration, and the leading-edge optics of the included scanhead.

Measuring Range: 600 L x 185 ø mm

Ai820

ShapeGrabber Ai820 automated 3D scanners are ideal for larger complex shaped parts that vary in size and shape and for which speed, complete coverage, and ease-of-use are important. The optional horizontal access provides even more part coverage for a wide range of part sizes and geometries.

Vertical Measuring Range: 750 L x 500 ø mm
Horizontal Measuring Range (optional): 1200 L x 400 x 500 ø mm

*Accuracy and repeatability are evaluated with a QVI compensation and verification procedure based on the ISO 10360-8 2013 and ISO 10360-13 2021 standards. See machine datasheets for further details.

ADDITIONAL SYSTEMS

SMARTSCOPE

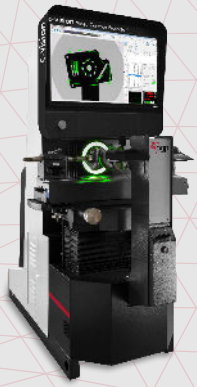
OGP SmartScope® systems are the world's most popular 3D multisensor measurement systems, trusted by leading manufacturers around the globe. Featuring class-leading optics and a variety of contact and non-contact sensors, SmartScope systems handle nearly any metrology challenge – from simple walk-up measurement to the most nuanced applications. The SmartScope E-Series and M-Series feature IntelliCentric™ optical systems and Virtual Zoom. At the core of M-Series systems is the patented* IntelliCentric-M optical system which features fixed optics with a 20-megapixel camera and proprietary Virtual Zoom.

*US Patent No. 12 052 501

FLEXPOINT

FlexPoint® floor model systems are true multisensor systems supporting tactile and non-contact sensors such as the SmartProbe® video probe and TeleStar interferometric laser all powered by ZONE3. The VersaFlex™** multisensor head offers up to three simultaneously available sensors on an articulating probe head. With several sensors simultaneously available, there is no downtime while individual sensors are exchanged from a change rack, and no need to recalibrate each time a sensor is used.

**US Patent Number 10 222 207 B2



C-VISION

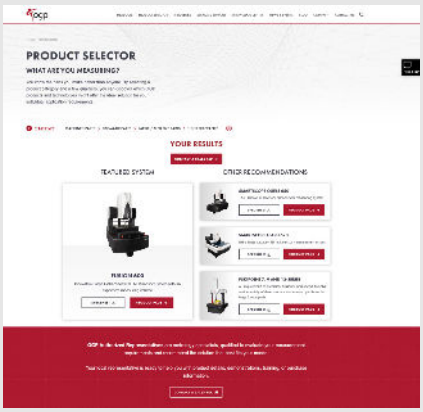
c-vision™ Video Contour Projectors® from OGP combine the speed and accuracy of a video measurement system with the rugged capacity of an optical comparator to create the world's best shop-floor measuring tools for 2D measurement.

CALIBRATION LAB

OGP's fully accredited Line Scale Calibration Laboratory is tightly controlled and features a line scale calibration bench with a Calibration and Measurement Capability Uncertainty (CMC) as low as 22 nm (officially per independent audit Q[22, .072L] with L in mm; 2400 mm total length). This line scale bench is of a "national lab" level capability available to OGP representatives and customers for the measurement of optical calibration artifacts.

ADDITIONAL INFORMATION ABOUT OGP SYSTEMS

Explore a range of knowledge assets to help guide your research.



PRODUCT SELECTOR

This self-guided selector assists customers in identifying OGP products as a solution to their unique measurement needs.

Customers select what kind of parts they manufacture, what size the parts are, and the tolerances they need to meet – the Product Selector suggests a featured system and other recommendations based on the customer's input.

KNOWLEDGE CENTER

Find numerous white papers, case studies, tech reports and other educational material about dimensional metrology and OGP product solutions.

You can also quickly learn about OGP technology and solutions by watching product explainer videos.

SHAPEGRABBER ONLINE TRAINING

Users get access to online course material to refresh and update their scanning skills. Courses can be accessed anywhere at anytime with any connected device.

FIND A SALES REP

OGP Authorized Representatives are metrology specialists, qualified to evaluate your measurement requirements and recommend the solution that best fits your needs.

Your local representative is ready to help you with product details, demonstrations, training, or purchase information.

Confidence. When Results Matter™

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