ATOS COMPACT SCAN

The compact class of scanning

gom
Optical Measuring Techniques
The ATOS series of industrial optical 3D scanners provide accurate scans with detailed resolution at high speeds. ATOS delivers three-dimensional measurement data and analysis for industrial components such as sheet metal parts, tools and dies, turbine blades, prototypes, injection molded parts, castings, and more. Instead of measuring single points or with a laser, ATOS captures an object’s full surface geometry and primitives precisely in a dense point cloud or polygon mesh.

ATOS is widely utilized in various industries, and can measure different object sizes, surface finishes, and shape complexities:

- Highly accurate 3D measurements
- Detailed, high-resolution scans
- Quick data collection
- Advanced inspection functionality
- Complete dimensional analysis
- Comprehensive reporting

3D Coordinate Measuring

Optical 3D measuring technology and full-field surface measurement systems have become a standard tool within virtually all industries. Engineered with the highest quality, GOM measurement systems have proven to be an indispensable asset for quality control in modern product development and production process chains.

- Optimize design and manufacturing processes
- Complete standardized quality control
- Rapid full part inspection and analysis
- High-definition data for reverse engineering
- Accelerated return of investment
- Uniform quality standards for producers and suppliers

With over 20 years of industrial experience, GOM is a solutions provider that integrates 3D measuring technology by partnering directly with customers to improve product quality and workflows.

The Benchmark Scanner

ATOS is metrology tested and widely accepted as the preferred measuring tool. It is engineered with advanced hardware and intelligent software to provide fast precision measurements with flexibility and stability for industrial environments.

The ATOS generation of 3D scanners are the most innovative optical measuring systems for three-dimensional coordinate measurement on the market.

First developed in 1995, ATOS has thousands of installations in measurement and analysis rooms, factories, and production halls worldwide.
Universal Process Integrity

The ATOS 3D Digitizer is established in industrial process chains. The integration of ATOS in industrial development and production processes helps:

- Reduce production start-up times
- Optimize component quality
- Speed up the time to production
- Maintain high level of quality assurance throughout the entire manufacturing process
- Establish early trend analysis within series production processes
- Reduce rejects and rework, thus saving valuable time and money
- Automated quality control; to further increase speed, throughput, and repeatability
A New Breed of 3D Scanner

The ATOS Compact Scan is in a class of its own. This modern 3D scanner combines the latest ATOS Blue Light Technology and software into a compact design with an affordable price.

Manufactured with high-quality components, this lightweight and compact sensor ensures ultimate adaptability for various applications and environments, especially in narrow and confined areas. Quickly measure castings, design models, forms, injection molded parts, interiors, prototypes, vehicles, and much more.

The ATOS Compact Scan delivers:
• A complete ready-to-scan system in a compact package
• Fast high definition data and results
• Accurate and comprehensive measuring analysis

The Compact Class

The ATOS Compact Scan’s advanced hardware is integrated with GOM’s powerful software for scanning and inspection, making it the ideal solution for 3D applications.

• Simple measurement regardless of environment
• High-end components with stereo 2 or 5 megapixel cameras
• Measure various object sizes from small to large
• Quickly measure in narrow and confined spaces
• Complex measurement and inspection tasks
• Easy transport in a single lightweight suitcase
• Extremely fast setup
Blue Light Technology

The ATOS Compact Scan is a non-contact structured light system engineered with GOM’s advanced Blue Light Technology. GOM’s narrow banded blue light projection technique enables precise measurement irrespective of environmental lighting conditions, with an extremely long service life, and low maintenance.

Due to the powerful Blue Light Technology, the ATOS Compact Scan can support measuring areas up to 1200 mm², allowing fast scanning of large components while still delivering high-quality measurement data.

- GOM’s advanced high-end technology
- Low sensitivity to ambient lighting conditions
- Low maintenance costs
- Fast scanning for large components
- High-quality measurement data
Scan & Probe

Scanners are limited when measuring deep pockets, holes or optically inaccessible areas. The ATOS Compact Scan solves this by combining ATOS full-field scanning with GOM’s Touch Probe Kit.

- ATOS optically tracks GOM Touch Probe
- Instantly change between ATOS and Touch Probe measurements
- Measure difficult to access areas, holes, cavities, and hidden geometries
- Quick measurement of individual points
- Alignment of components, adjustment of fixtures, clearance determination, and more...

Industrial applications demand process-safe measurement data. Only GOM’s stereo camera technology ensures this high-quality accurate measurement data, constantly monitors the sensor and the environmental conditions and enables feedback directly to the operator.
**Scalable Field of View**

Unlike laser scanners, ATOS technology can easily adapt to various object sizes by simply changing the measurement volume. ATOS delivers detailed resolution scans with high accuracy regardless of object size. Measurement volumes can be changed quickly giving the operator flexibility to define point spacing resolution to accommodate the requirements of diverse projects.

The ATOS Compact Scan has changeable measuring areas from 35mm² up to 1200 mm². It may also be combined with TRITOP digital photogrammetry to ensure the highest level of accuracy and optimal process workflow for larger part sizes.

- Interchangeable measuring volumes to suit various project needs
- Adaptable high accuracy, detailed resolution and speed
- Complete part analysis
- Digitizing small to large parts with one scanner
- Measure large components up to tens of meters in size

**Configuration Flexibility for Portable Measuring**

The ATOS Compact Scan is available in a wide array of configurations. The portable solution fits into one easy to transport case that can be checked in as luggage. It includes the ATOS sensor, stand, calibration artifacts, cable and optional accessories such as a rotation table and the GOM Touch Probe.

- Portable solution fits into one travel case
- Checks in as luggage
- Configurable with a high-end laptop, tower PC, or rackmount system
- Industrial, mobile, and lightweight for various measuring environments
GOM manufactures high-quality turn-key measuring systems complete with advanced hardware, intelligent software, training, and support.

**Worldwide support network**

With industry expertise and highly qualified employees, GOM develops and produces the most innovative optical measurement solutions and technologies. In addition to sites in Germany, Belgium, France, Great Britain, Italy and Switzerland, GOM also has more than 45 partner offices around the world, forming a truly unified worldwide network to support today's modern global industries.

**Comprehensive Training**

The ATOS Compact Scan includes a comprehensive training program to ensure operator success. This course covers everything from sensor setup, scanning, data processing, inspection, analysis, reporting, to maintenance. The intelligent software and user-friendly guided interface does not require any specialized skills.
The ATOS Software is a knowledge base - it guides the operator through the complete scanning procedure and provides support for setting up new measuring tasks using guided project creation.

The ATOS software is used to run the sensor head, to process the 3D point cloud and to edit and post-process the data. The simple graphical user interface helps support today's demanding tasks in quality control, manufacturing processes and reverse engineering.

GOM Inspect is the free result viewer, mesh processing and inspection software for dimensional analysis of ATOS data or 3D point clouds.

Free Inspection and Mesh Processing
GOM Inspect is more than just a viewer. It also contains a complete set of tools for advanced mesh processing and evaluation. This free software not only analyzes ATOS data, but also 3D point clouds from laser scanners, CTs, and other white light scanners.

Free result viewer
Share ATOS results, further analyze data and easily discuss and detect problematic areas with colleagues, suppliers, and customers for effective collaboration to speed-up decision making processes.

Download a free copy at www.gom.com

Complete “out-of-the-box” solution

- Sensor, laptop, software, accessories in one complete package
- ATOS stereo camera principle for high accuracy
- Including all measuring and inspection software
- Complete training and support
## Technical Data

### Sensor Configurations

<table>
<thead>
<tr>
<th>Camera Pixels</th>
<th>ATOS Compact Scan 2M</th>
<th>ATOS Compact Scan 5M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring Area</td>
<td>2 x 2 000 000</td>
<td>2 x 5 000 000</td>
</tr>
<tr>
<td>Point Spacing</td>
<td>35 mm² up to 1000 mm²</td>
<td>40 mm² up to 1200 mm²</td>
</tr>
<tr>
<td>Working Distance</td>
<td>0.021 mm - 0.615 mm</td>
<td>0.017 mm - 0.481 mm</td>
</tr>
<tr>
<td></td>
<td>450 mm - 1200 mm</td>
<td>450 mm - 1200 mm</td>
</tr>
</tbody>
</table>

| Sensor Dimensions      | 340 mm x 130 mm x 230 mm |
| Weight                 | 3.9 kg                 |
| Sensor Controller      | integrated             |
| Cable Length           | up to 30 m             |
| Sensor Positioning     | lightweight tripod or sensor stand |
| Part Positioning       | manual or automatic rotation table |

### Image Processing Computer
- portable or desktop

### Operating System
- Windows 7

### Software
- data capture, processing and complete inspection

### Ambient lighting
- low sensitivity to environmental lighting conditions

### Environmental vibrations
- unaffected due to GOM’s dynamic referencing system

### Operating Temperature
- 5 - 40°C, non condensing

### Power Supply
- 90 – 230 V AC
GOM customers (extract)

3B Scientific • Aardmann Features • ABB • ACTech • Adidas • AEG
• Air Force Research Labs • Airbus • Alcan • Alcoa • Alfa Laval •
Alstom • Altay Scientific • Apache Footwear • Arcelor • Aselsan •
Asics • ASUS • Audi • Auto Parts Malaysia • Autodie International
• Automotive Lighting • Autopal • Avtovaz • Balda • Bang & Oluf
sen • BAM • BASF • Batz • Bayer • Bentley • Bertone • Bertrandt •
Blaupunkt • BMW • Boeing • Bombardier • Bosch • Bplus • Braun •
Bridgestone • Bundeskriminalamt • Busch Jäger • Canon • Car
cousins • Carson • Catio • Caterpillar • Cesna • Cherry Automoti
ve • Chicago Mold • China Steel • Ching Luh Shoes • Chrom Alloy
• Chrysler • Continental • Corning • DAAZ • Daihatsu Motor •
Daimler • Delloyd • Delphi • DLR • Dodge • Dräxlermaier • DuPont
• ETH Zürich • E.ON • EADS • EDAG • Eco • Elasis • ELBAR SULZER
• Electrolyx • Embraco • ENDO manufacturing • Ensam • EPFL
Lausanne • ESA • Eurocopter • Ever Tech Plastic • EXXON • FAA
• Fachhochschule Nordwestschweiz • Faurecia • FES • Fiat • First
Automobile Group • FisherPrice • Flextronics Plastics Technology
• FOK • Ford • Forschungszentrum Karlsruhe • Foxconn • Fraunhofer
• Fuji • GE Energy • General Motors • Georg Fischer • Gillette •
Gintic • GKSS Geestacht • Goodrich • Goodyear • Gorbunov Avi
ation • Greenpoint • HANKOOK • Hansen Transmissions • Head
Tyrolia • Heck • Becker • Heila Leuchtsysteme • Hidrostat • Hilti
• Hitachi Taga • Honda • Honeywell • Hovmet • Hydro • Hyundai
• IAV • IBM • IMA Dresden • Imperial College • IMPO • Institute
of Forensic Medicine Berne • International Automotive Research
Centre • Intier Automotive • Istanbul Technical University • Isu
zu • Italdesign-Giugiaro • IUC • IVM • Jaguar • JAXA • Jhi Soon
Auto Metal • John Deere • Johnson Controls • Kautex Textron •
Kewnpump • Kia • Kitech • Krämer • Grebe • KTH • LU Leuven •
Land Rover • Läpple • Laurence Livermore National Laboratories
• Lego • LG Electronics • Liebherr • Lockheed Martin • Los Alamos
Laboratories • LUK • Luxottica • Magna • Magneti Marelli • Mah
ließ • Mann + Hummel • Matador • Matrici • Mattel • Max Plank
Institute • McLaren • Metalbages • Michelin • Microsoft • Miele
• Mitsubishi • Modernas • Montuptet • Motorola • MTU • Nagasaki
Industrial Research Center • NASA • Natour • Naval Research Lab
• NAZA • Nemak • Nikke • Nissan • Nokia • Nokisto • Northrop
Grumman Systems • Northeller • Nottingham University • Nypro
• O&H Technik • Olympus • ONERA • Otto Fuchs • PCC Leoben •
PC • Peguform • Phiaro Corp. • Philips • Pierburg Kolbschmidt
• Pietro Rosa • Pilkington Automotive • Pinnfarina • Playworks
• Poong Won Che Hwa • Porsche • Pratt & Whitney • PSA • PURAST
• Queen Mary College • Reebok • Renault • RIM • Robe & Bir
king • Rolls Royce • RWTH Aachen • Saipa • Salzgitter • Samsung
• Sandia National Lab • Sanjo • Saturn • Sea Ray Boats • Seat •
Shell • Shenyang Aircraft Research Institute • Siemens • Skoda
• SKS Coachbuilders • Sncma • Solar Turbines • Solvay • Sony •
SonyEricsson • Standard Profile • Stihl • Stola • Subaru • Sun Mi
crosystems • Suzuki • Tata Motors • Tata Steel • Temsa • Thomas
sen • Thule • ThyssenKrupp • Tianjin Motor Dies • Tokai Rubber
Industries • Topia • Toyota • Triumph • TRW • TUF Delft • TUF Dres
sen • TU Eindhoven • TU Graz • TU München • Tubitak Marmara
Research Center • Turbine Services • Tyco • Uni Erlangen LFT • Uni
Padova • Uni Stuttgart • US Army Research Lab • Valeo • VDO •
Vertu • Villeroy+Boch • Voest Alpine Stahl • Voith Siemens • Volke
• Volkswagen • Volvo • Vulcan Air • VZLU • WAGO • Walt Disney
• Warwick University • Whirlpool • Yamaha • Yulon • ZF Sachs

GOM - Optical Measuring Techniques

GOM is a global industrial manufacturer that de
velops and produces revolutionary optical measu
rement solutions and technologies for
3D coordinate measurement and deformation analy
sis. GOM’s measuring systems are based on digi
tal image processing and are used in product
development, quality assurance, material and com
ponent testing.

Optical measuring technology and full-field sur
face measurement systems have become a stan
dard tool within virtually all industries. The data
from GOM’s measurement systems are an invalu
able tool for quality control in modern product de
velopment and production process chains.

Non-contact optical measuring systems for all measurement tasks

In addition to the ATOS 3D Digitizer, GOM also of
fers:
• TRITOP: optical 3D coordinate measuring machine
• ARAMIS: optical 3D deformation analysis of ma
terials and components
• PONTOS: dynamic non contact 3D analysis of
displacements and deformations
• ARGUS: optical forming analysis for sheet metal forming processes

GOM - Optical Measuring Techniques

GOM is a global industrial manufacturer that de
velops and produces revolutionary optical measu
rement solutions and technologies for
3D coordinate measurement and deformation analy
sis. GOM’s measuring systems are based on digi
tal image processing and are used in product
development, quality assurance, material and com
ponent testing.

Optical measuring technology and full-field sur
face measurement systems have become a stan
dard tool within virtually all industries. The data
from GOM’s measurement systems are an invalu
able tool for quality control in modern product de
velopment and production process chains.

Non-contact optical measuring systems for all measurement tasks

In addition to the ATOS 3D Digitizer, GOM also of
fers:
• TRITOP: optical 3D coordinate measuring machine
• ARAMIS: optical 3D deformation analysis of ma
terials and components
• PONTOS: dynamic non contact 3D analysis of
displacements and deformations
• ARGUS: optical forming analysis for sheet metal forming processes