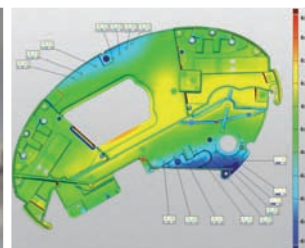
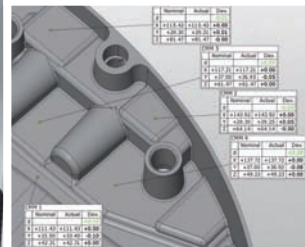


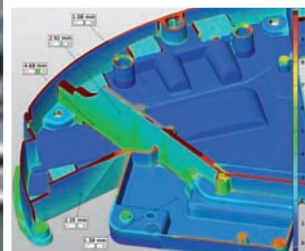
INJECTION MOLDING



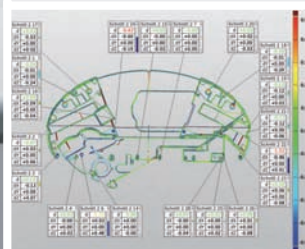
CAD Comparison



Comparison to Drawings



Wall Thickness Calculation



2D Section Inspection

Optical Measuring Techniques for Injection-Molding and Plastic-Processing Industries

Full-field measurement and complete analysis
Quality control and first article inspection

INJECTION MOLDING

ATOS in Injection-Molding and Plastics Industries

The ATOS 3D Digitiser differs from traditional coordinate measurement machines and measuring arms. Instead of measuring single points, the complete part geometry is captured in a dense point cloud or polygon mesh describing the object's surface and primitives precisely, allowing full-field analysis, detecting errors point based analysis would miss.

Quick full-field measurement

Find problems a tactile system might miss and allows easy part visualisation and understanding

Flexible and mobile system

On-site measurement and inspection. Inspect electrodes, tools, slide bars and injection-molded parts (small to large) with one measuring system.

Efficient first article inspection

Identify problematic areas quickly and speed up the decision making process via local / global warpage analysis and wall thickness calculation.

Automation

Work efficiently in case of repeating measurements and evaluations by automation with rotation and multi axis motion units and customized reports.

ATOS Touch Probe

Combination of full-field 3D scanning with classic touch probe measurement for tactile measurement of primitives, comparison to CAD, quick single point measurement, ...

The ATOS 3D Digitisers have been produced and constantly developed since 1995 and installed in more than 2500 measurement and analysis rooms as well as factory and production halls worldwide.





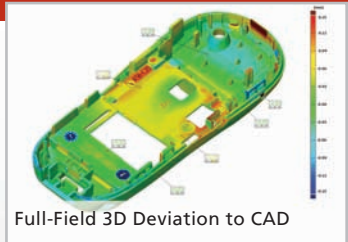
CAD Import

The basic three-step workflow

3D Polygon Mesh Generation

ATOS delivers highly accurate 3D coordinates and triangular meshes.

- Complete geometry documentation for maintenance and archiving
- Incorporation of tool changes in CAD data
- Copying of electrodes and dies when no data is available
- Direct milling from the ATOS mesh without having to create CAD data
- Reverse Engineering

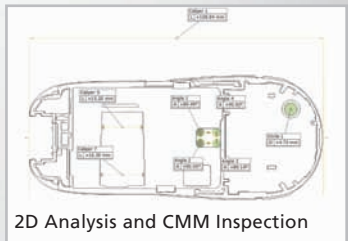


Full-Field 3D Deviation to CAD

Evaluation

ATOS Inspection Software includes data processing and inspection

- Analyse 2D and 3D dimensions and geometry for first article inspection
- Identify shrinkage and warpage of components quickly
- Compare 3D data to CAD for quality control during production
- Verify material accumulations that can be missed by traditional methods
- Analyse components by means of geometric dimensioning and tolerancing (GD&T)

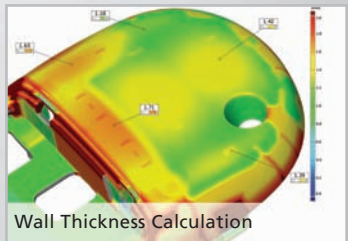


2D Analysis and CMM Inspection

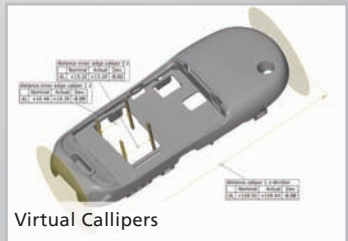
Reports and Viewer

ATOS software includes complete reporting and offers free results viewer

- Understand measuring results easily
- Make more reliable decisions
- Display 3D measuring and inspection data clearly
- Combine all data in one file only
- Exchange information and work together with colleagues and customers in a simple way



Wall Thickness Calculation

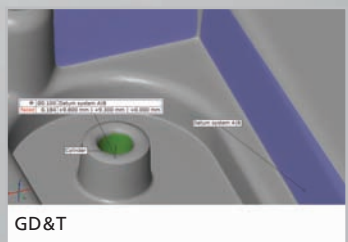


Virtual Callipers

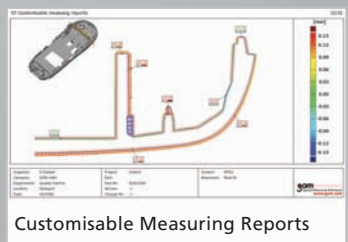
Integrated Hard and Software Solution

The bundled ATOS software forms the complete measuring and inspection solution; measuring, evaluation, inspection and reporting is carried out in one software.

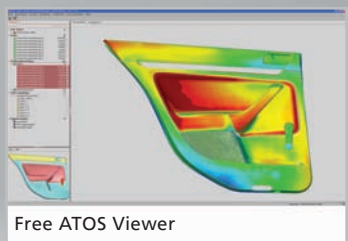
- Optimised workflows – time saving
- User friendly – one training session
- No third party inspection package required
- One support contact
- Import native and general CAD formats without extra costs
- Automation



GD&T



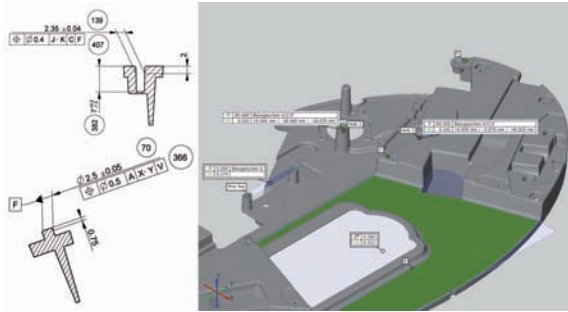
Customisable Measuring Reports



Free ATOS Viewer

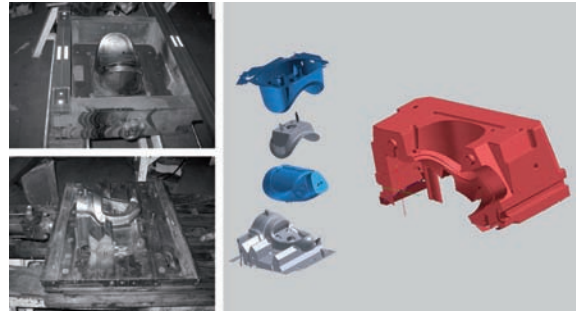
ATOS in Injection-Molding and Plastics Industries

ATOS is used in injection-molding and plastics industries as an accurate, fast and robust measuring solution helping optimising and simplifying application workflows. The ATOS sensor combines high data quality with flexibility and stability for industrial environments.



Geometric Dimensioning and Tolerancing

- Automatic point selection
- Clearly represented datum systems
- Labels are easy to understand
- Flatness, parallelism, position, etc.
- Tolerances correspond to EN ISO 1101 and ASME Y14.5.



Tools, Electrodes, Sliding Bars

- Wear control
- Comparison to CAD
- Milling on scanned data
- Reverse Engineering
- Fitting of mold halves, cores, inserts



GOM – Optical Measuring Techniques

Founded in 1990 as spin-off of the Technical University Braunschweig, Germany, GOM develops, produces and distributes optical measuring equipment for the three-dimensional measurement and deformation measurement of components. The measuring systems are based on digital image processing and are used in product development, quality assurance, material and component testing.

GOM offers a complete in-house solution covering hardware, software, technical support and training. This single point of contact offers a completely integrated hardware and software solution maximising the capability of the hardware, resulting in an efficient, flexible measurement workflow.



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