



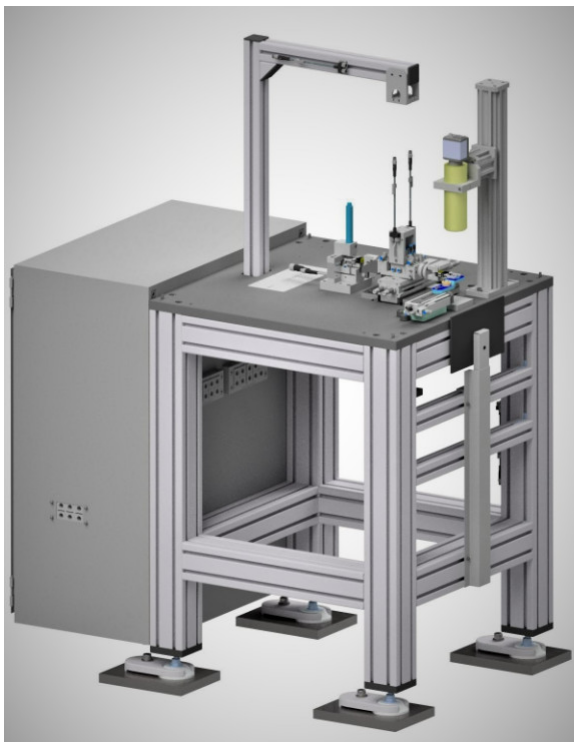
Steinbeis
Qualitätssicherung und
Bildverarbeitung GmbH

LensTest geometry

Fully automatic testing of the geometry of lenses

LensTest Geometry is used for high-precision automatic measurement of geometric quality features on lenses.

Feature:	Standard measurement uncertainty
Centre thickness:	$\leq \pm 2 \mu\text{m}$
Outer diameter:	$\leq \pm 1,5 \mu\text{m}$
Opening diameter, inside:	$\leq \pm 10 \mu\text{m}$
Opening diameter, outside:	$\leq \pm 10 \mu\text{m}$
Chamfer width:	$\leq \pm 10 \mu\text{m}$
Room temperature:	20 °C bis 25 °C



LensTest geometry
Automatic test station for geometry testing on lenses

Werner-von-Siemens-Straße 9
98693 Ilmenau / Germany

Phone +49 (0) 36 77 · 46 90 59 0
 Telefax +49 (0) 36 77 · 46 90 59 11

E-Mail info@sqb-ilmenau.de
 Internet www.sqb-ilmenau.de

Contact

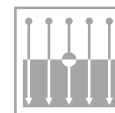
Dipl.-Ing. Steffen Lübbecke
 Phone +49 (0) 36 77 · 46 90 59 10
 E-Mail steffen.luebbecke@sqb-ilmenau.de

M. Sc. Norbert Jahn
 Phone +49 (0) 36 77 · 46 90 59 15
 E-Mail norbert.jahn@sqb-ilmenau.de

Prof. Dr. Gerhard Linß
 Phone +49 (0) 171 · 51 23 758
 E-Mail gerhard.linss@sqb-ilmenau.de



Products
Service



Development
Research



Consulting
Training



Steinbeis
Qualitätssicherung und
Bildverarbeitung GmbH

LensTest geometry

Fully automatic testing of the geometry of lenses

LensTest-Geometry is an automatic testing machine for non-contact measurement of geometric features in medium and large-scale production of optical lenses and components.

The optical lenses/components can be loaded manually or by robots and sorted according to quality results. For this purpose, there is a deposit station for the automatic feed and a deposit station for the removal of the test specimens with quality information.

The permissible gripping positions for handling must be selected so that there is no contact with optically effective surfaces.

Different optical components with different workpiece sizes can be tested.

Diameter range for lenses approx. 5 mm to 30 mm.

Abrasion marks, surface changes and contamination on the test items must be avoided during manual and automatic handling.

LensTest-Geometry realises an automation of the testing process and processes measuring and organisational data for each production order.

The highly sensitive measuring systems are protected from external and internal disturbances by a vibration damping system.

LensTest geometry works completely autonomously.

The automatic measuring station LensTest-Geometry contains a complex control system. In addition to the measuring systems for the centre thickness and the geometric dimensions of the lenses, it contains 30 pneumatic assemblies, several pressure regulators, 20 mechanical precision stops, 35 sensors, 15 actuators and an extensive adjustment system.

The integrated control cabinet contains Siemens assemblies for PLC, a measuring PC with Windows 10 operating system for the sensor systems as well as for visualisation, evaluation of the measurement results and for communication.

Uninterruptible power supplies for the PC and other assemblies ensure supply security and for internal automatic handling.

The CE declaration of conformity according to the Machinery Directive for placing on the market is part of the product.

Trouble-free and functional operation of LensTest-Geometrie according to VDI guideline 3423 is achieved.

LensTest-Geometry is designed for multi-shift automatic operation.

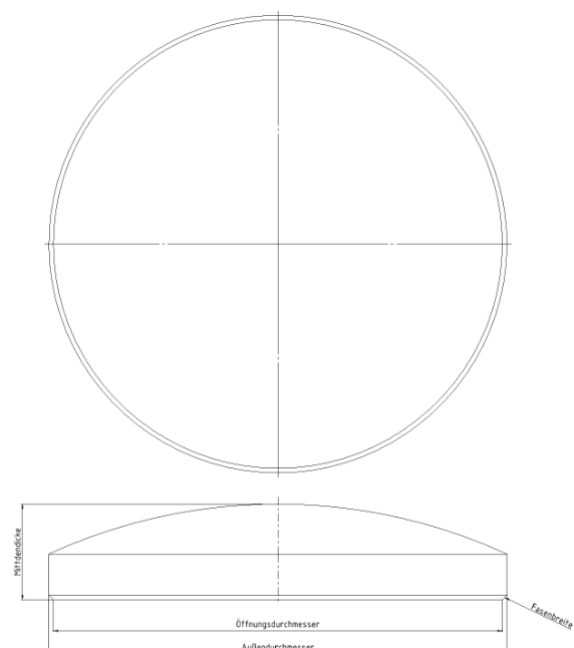
Low cycle times in the double-digit seconds range for robot-guided or manual loading, testing and quality-assured sorted depositing of the test specimens enable maximum productivity.

The automatic and regular assurance of the measurement quality and monitoring of the measurement results is realised by the measurement of master lenses.

Metrological assurance of the measurement results can also be realised by comparison with calibrated lens standards.

The lenses are mounted on test specimen-specific annular blades.

Adjustable lens holders can also be integrated on customer request.



Geometric features on a plano-convex lens