



LensTest-form

Fully automatic testing of the shape of lenses

LensTest-Form is used for high-precision automatic measurement of the shape deviations of the functional surfaces on lenses.

Lens-Test-Form tests the parameters according to ISO 10110-5:

A or POWER

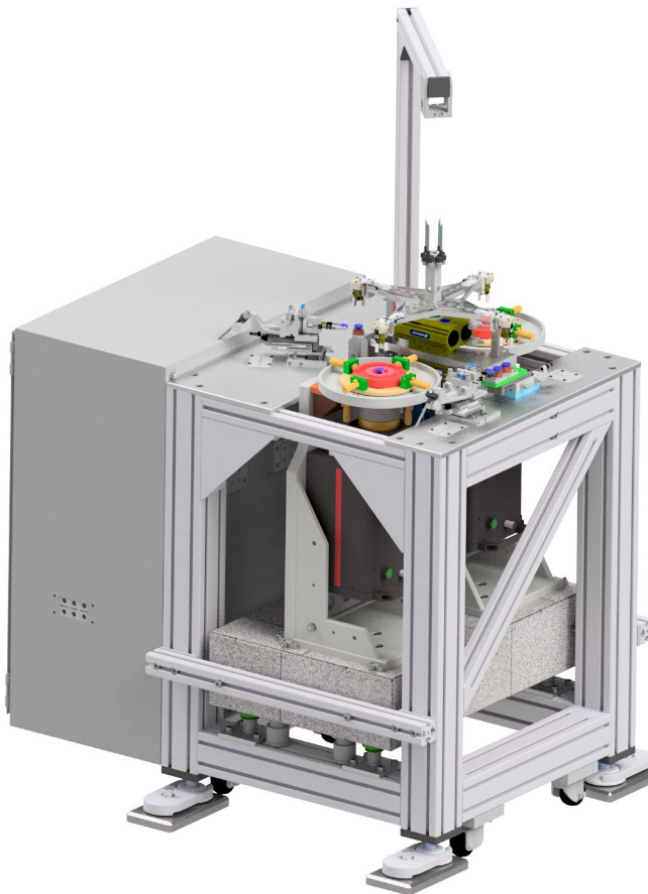
B or IRR

C or RSI

RMSa, RMSi and RMSt

The measurement resolution is defined by Newtonian rings and realised with the value of half the wavelength of 273 nm

Room temperature: 20 °C to 25 °C.



LensTest-Form

Automatic test station for form testing of the functional surfaces on lenses with feed and deposit station as well as internal and automatic handling

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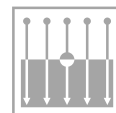
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LensTest-Form

Fully automatic inspection of the shape of lenses

LensTest-Form is an automatic testing machine for non-contact testing of the form deviation of the optical functional surfaces on lenses and optical components in medium and large series production.

The optical lenses/components can be loaded manually or by robots and sorted according to quality results. For this purpose, there is a feeding and depositing station for manual or robot-guided loading of the testing machine.

The permissible gripping positions for handling must be selected in such a way 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 impurities on the test specimens must be avoided during manual and automatic handling

LensTest-Form 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 passive vibration damping system with a rock plate

LensTest-Form operates completely autonomously

The automatic measuring station LensTest-Form contains a complex control system. In addition to the measuring systems for high-precision measurement of form deviations, 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 modules for PLC, two measuring PCs with Windows 10 operating system for the sensor systems and a PC 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 the product on the market is part of the product.

A trouble-free and functional operation of LensTest-Form according to VDI guideline 3423 is achieved.

LensTest-Form is designed for multi-shift automatic operation

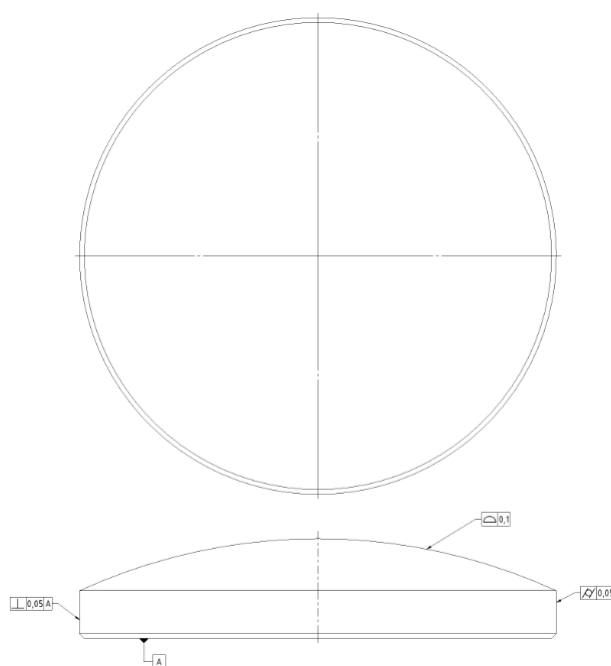
Low cycle times in the two-digit second range for robot-guided or manual loading, testing and quality-assured sorted depositing of the test specimens enable maximum productivity.

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



Shape features on a plano-convex lens