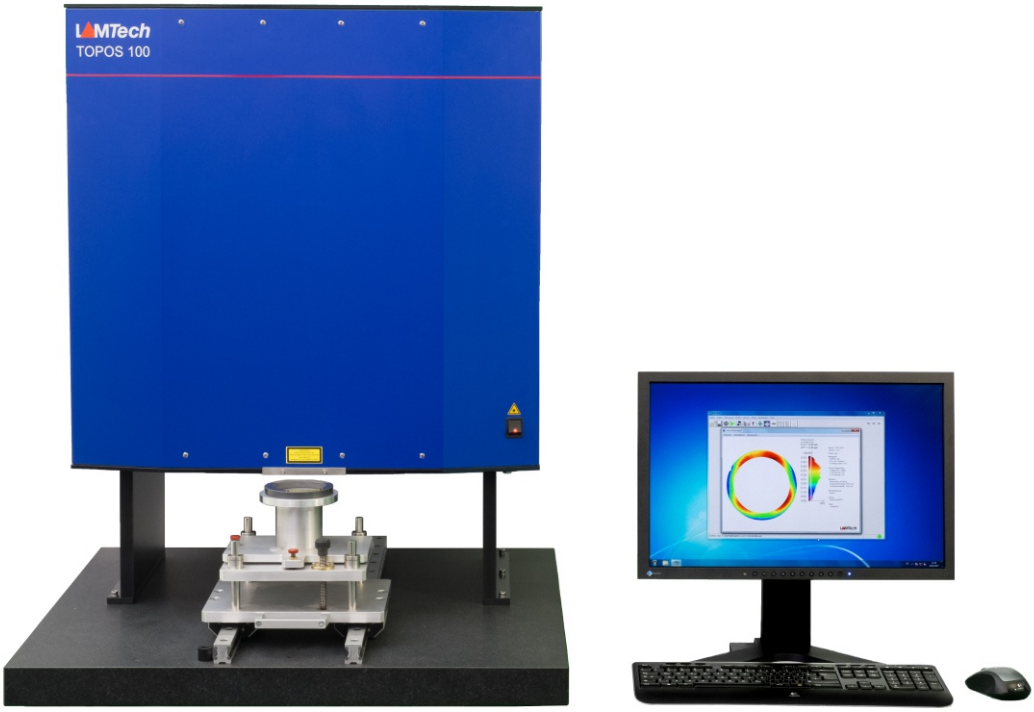
TOPOS 100

interferometric measuring system for non-contact flatness measurement of finish-machined parts



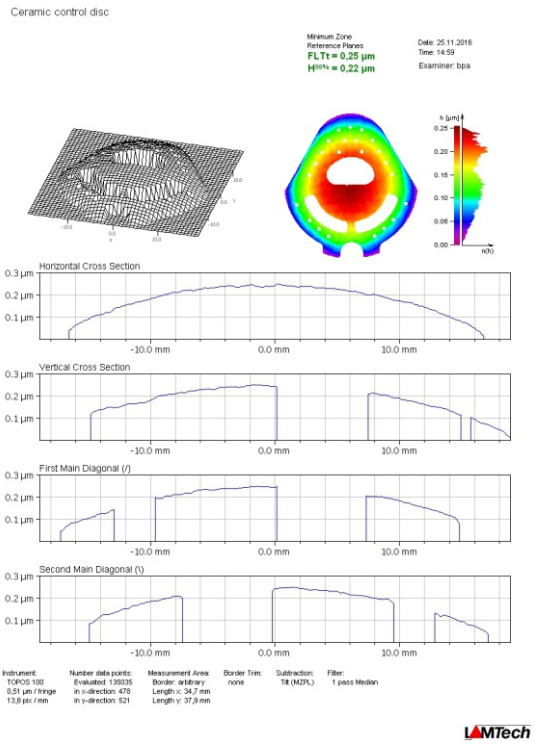
The TOPOS 100 is a non-contact flatness measurement instrument for precision-manufactured surfaces with sub-micron accuracy.

The TOPOS flatness measurement instruments meet the requirements for objectively working measurement tools for the production and quality control of sophisticated components, such as those being utilized, for instance in fuel injection systems, pumps or valves.
The TOPOS interferometers allow the non-contact flatness measurement of lapped, fine-finished and polished precision parts.
The structure of the interferometer ensures significant advantages and facilitates the handling, especially when being placed in the production environment.
Maximum possible protection of the reference surface is ensured by the non-contact measurement and by the placement of the entire interferometer above the parts which are supposed to be measured. Thus, oil and other processing materials on the part cannot reach the reference surface and reach into the interferometer.
The evaluation software ISA for TOPOS interferometers ensures an easy handling and allows an intuitive operation of the interferometer.
In less than 2 seconds the worker will receive a concrete flatness value according to the ISO/TS 12781-1.
Thus results are made comparable and quantifiable.
In order to visualize the results of the flatness measurement, it is possible to present the topography of parts in various graphics.
Furthermore, there exists a connection to statistics and quality control programs. The results of a measurement series can be exported to CSV or AQDEF data format.
The parameters how a part is measured (measurement area, description, filter ...) can be saved into a file which allows a fast change between different parts.
It includes the motorized setting of the sensitivity and the zoom lens.

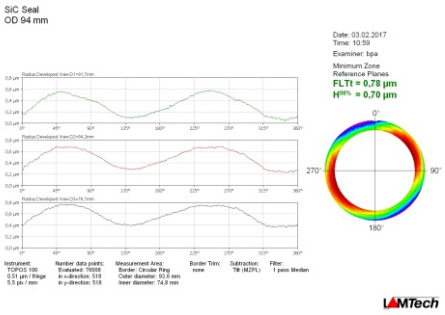
Specifications TOPOS 100

Measuring field (diameter)	100 mm
Material of the reference surface	Quartz glass
Calibrated sensitivities	0.5 , 1, 2 and 4 µm per fringe
Measurement accuracy	(0.1 ... 0.4) µm +2% of measured value, according to the selected sensitivity
Measuring range	up to 100 µm, limited by the slope of the part
Measuring points	up to 300,000
Spatial resolution	0.2 mm with full measuring field, with zoom correspondingly higher in a smaller area
Measurement time	< 2 s
Dimensions (L x B x H)	750 mm x 750 mm x 930 mm incl. base plate
Weight of the interferometer	80 kg
Weight of the base	105 kg (base plate with linear axis and height-adjustable tilt table)

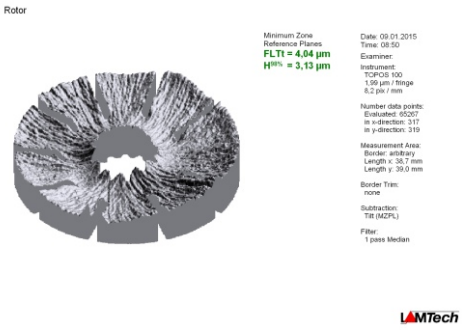
Examples for the graphical presentation of the measuring results with the evaluation software ISA



The measurement data sheet summarizes the measuring results for a simplified documentation.



The developed views provide the possibility to evaluate the part at any diameter.



The relief image provides an additional visual impression about the form of the part.

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