TOPOS 50

- The New Version -

Instrument for fast, high-accuracy non-contact flatness measurement of precision parts

The TOPOS 50 is a non-contact flatness measurement instrument for precision-manufactured surfaces with sub-micron accuracy. Based on the well-proven TOPOS 50, the new version now also offers a motor-driven adjusting mechanism of the sensitivity setting, like it is already known from the TOPOS 100. Thanks to the new design, the TOPOS 50 now optically blends in with the TOPOS series.

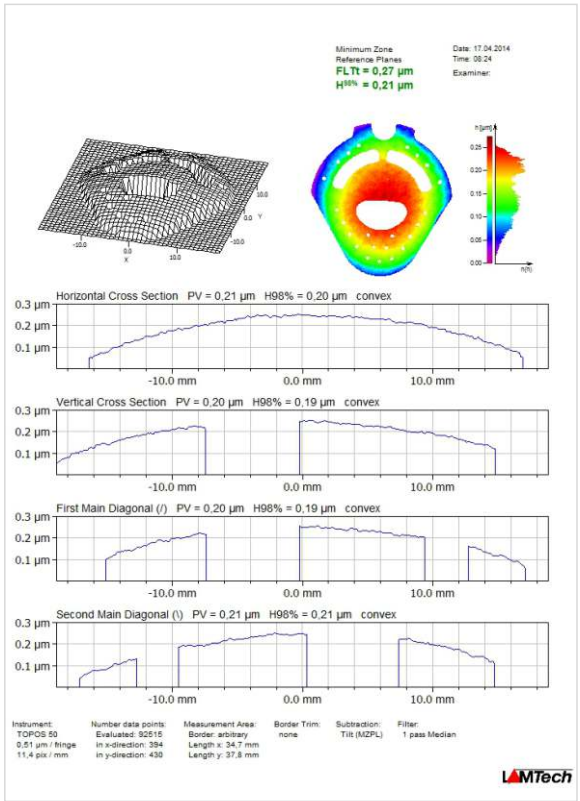
The TOPOS flatness measurement instruments meet the requirements for objectively working measurement tools for the production and quality control of sophisticated components, such as those being utilized, for instance, in fuel injection systems, pumps or valves. The TOPOS interferometers allow the non-contact 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 cannot reach the reference surface and/or 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 correspondingly 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 forms. Furthermore, there exists a connection to statistics and quality control programs. Hence, the results of measurement series can be exported to CSV or AQDEF data format.

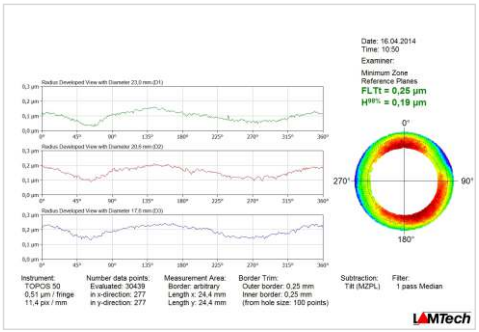
Specification TOPOS 50

Measrement Area (Diameter)	50 mm
Material of Reference Surface	Quartz glass
Calibrated Sensitivities	0.5 , 1, 2 and 4 µm per fringe
Accuracy	(0.1 ... 0.4) µm +2% of measurement value, depending on the sensitivity
Dynamic Range	Up to 100 µm, limited by the slope of the surface
Data Points	300 000 (depending on the Version)
Lateral Resolution	0.1 mm
Measurement Time	< 2 s
Dimensions of Interferometer Unit	610 mm x 500 mm x 625 mm
Weight Interferometer	32 kg
Weight of entire Mounting Plate	63 kg

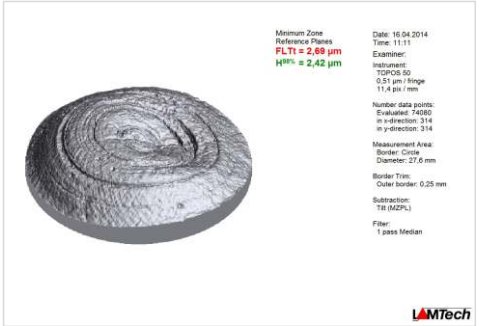
Examples of the graphical presentation of the measurement results of the Evaluation Software ISA



The Measurement Sheet summarizes the measurement results for a simplified documentation.



The Radius 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 surface of the part.

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