Interferometric accuracy for measuring fields up to 110x110 mm$^2$

Precision in a new dimension

In the past, precision measurement technology for large areas was usually only possible with stitching – and effective process but one that often led to inaccuracies. A proven white light interferometer in a new design now enables highly precise measurement of continuous and non-continuous, reflective and rough surfaces up to 110x110 mm$^2$. The increased field of view allows full-surface optical measurement with maximum precision.

ISRA’s NetGAGE3D XXL impresses with the accuracy of the interferometric measurement process down to the nanometer range. Evenness, parallelism, step height and other parameters are measured reliably; very large measuring fields are captured with consistently high precision without stitching. The system can be used to inspect smooth or textured sealing surfaces, precision installation surfaces, optical elements, and lapped, milled or polished wafers. Proven in a diverse range of applications, the white light interferometer also enables measurements directly inline and thus quick and easy quality enhancement. The high measurement speed and robust process are ideal for full-surface contactless measurement with pinpoint accuracy.

Thanks to its variability, the updated 3D sensor is also impressive when compared to other processes. Rough surfaces cannot be measured with laser interferometers; triangulation and processes that work with stitching deliver less precise results; and grazing incidence interferometers are not suitable for non-continuous surfaces – so the sys-
tem has a wide range of uses. These include inspection of plates, wafers and metal components with maximum efficiency and, thanks to the short scan time, cycle-controlled measurement technology.

In the NetGAGE3D eco and plus system versions, the sensor is also available as a standalone solution. The operating concept here is optimized for both touchscreens and conventional keyboard input. With intuitive menu navigation, it is very easy to use without any prior knowledge. This is particularly important given the vision of INDUSTRY 4.0 – connected, digital production demands speed and flexibility, and NetGAGE3D is perfectly tailored to automated series production.

Images

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Full-surface optical measurement of the rim supporting surface of brake disks