



## Contactless and precise roughness measurement in the lab or directly in the production process

- KRÜSS presents the Surface Roughness Analyzer – SRA, a confocal microscope for optical analyses of surface textures
- Optical and micro-mechanical innovations combine speed with high resolution
- The SRA works as a lab instrument or as a robot-controlled measuring head

**Hamburg, February 18, 2019** – Whether a surface must be very smooth or show a certain texture or degree of roughness, the new Surface Roughness Analyzer – SRA precisely pictures the topographic condition of a surface and provides information for optimizing the material or production process. Contactless, quickly, and with an extremely high resolution, the SRA delivers a 3D image of a sample's surface and the correlating data which exactly describe its topography. Analyses with the SRA also help to evaluate the contribution of roughness to the wettability of a sample or to the adhesion of coatings.

### Technical innovations for precision and speed

The SRA uses the confocal microscopy technique to create the spatial representation of the surface. This happens by stacking layers of 2D images, each one with a very small depth of focus, while lowering the optics with extremely tiny increments, leading to a height resolution of down to 10 nanometers.

To scan an area of the sample, usual confocal microscopes use a rotating pinhole disk to create an image at each height level. The disk inside the SRA has micro lenses instead of just holes, increasing the light yield and making it possible to analyze low-reflectivity or even transparent surfaces.

The vertical transport of the measuring head uses an ultrasonic instead of a common piezo drive. Thus, while combining speed with a high resolution, the usual height range of the measurement is widely exceeded. To reach a vast scope of tasks from roughness analysis to imaging the exact shape of whole products such as screws or tooth implants, lenses with magnifications from 2.5 to 100-fold can be exchanged quickly and easily.

### Measuring head for robotic systems – ready for in-line quality control

With its small size and low weight, the SRA can be used at almost any place as a lab instrument, but is also available as a measuring head to be used for automatic processes in the production line. This makes real-time sample evaluations for QC checks of work pieces possible. Adding to the versatility of the SRA itself, the software can be linked to programs such as Matlab® in order to integrate it in information systems.

The Surface Roughness Analyzer – SRA is immediately available. KRÜSS will also present the instrument together with other solutions in the area of non-destructive surface analysis at the Control trade fair from May 7 to 10 in Stuttgart (Germany): Hall 6, Stand 6419.

## Photo



Surface Roughness Analyzer – SRA by KRÜSS as a robot-controlled measuring head

## About KRÜSS

**Advancing your Surface Science.** As specialists in interfacial chemistry and the world's leading supplier of measuring instruments for surface and interfacial tension, we not only provide high quality product solutions – our offer is a combination of technology and scientific consulting. These include seminars and technical service as well as our Applications & Science Center for trainings and professional measurement services. Our exclusive distribution network and our locations in Hamburg (Germany), China, the US, Great Britain and France allow us to provide fast, flexible support for R&D labs and in quality control throughout the world. Our expertise, precision, and passion have already convinced many prestigious companies in countless industries.

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