

SURFACE ROUGHNESS ANALYZER – SRA



TOP LEVEL CONFOCAL MICROSCOPE
FOR TEXTURE ANALYSIS

KRÜSS

Advancing your Surface Science

THE SMOOTH SOLUTION FOR ROUGH SURFACES

- State-of-the-art confocal microscopy
- Wide size range up to imaging whole work pieces
- 3D images even of transparent materials

Comprehensive analysis of your material's texture

Whether your surface must be very smooth or show a certain texture or degree of roughness, our Surface Roughness Analyzer – SRA supports you in optimizing your material or production process. Contactless, quickly, and with an extremely high resolution, the SRA gives you a 3D image of your sample's surface and provides you with data which exactly describe its topography.

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.

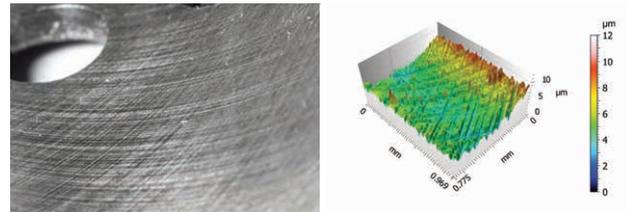
The vertical transport of the measuring head uses an ultrasonic instead of a common piezo drive. Thus, while combining speed with a high resolution, the usual height range of the measurement is widely exceeded. To reach a vast scope of tasks from roughness analysis to imaging the exact shape of whole 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

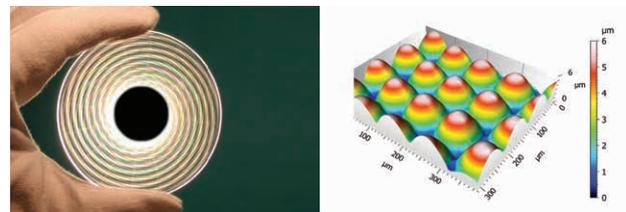
With its small size and low weight, the SRA can be used at almost any place as a lab instrument, but is also available as a measuring head to be used for automatic processes in the production line. This makes real-time sample evaluations for QC checks of work pieces possible.

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. You can count on our extensive support when it comes to incorporating the SRA into your process.

Examples of precise 3D analysis at different scales



Cylinder running surface



Microlens disc

VERSATILITY IN EVERY DIMENSION

- Ideal complement to wettability analysis
- Roughness parameters in accordance with important norms
- Usable for QC thanks to quick and easy-to-perform measurements

TASKS AND APPLICATIONS

Analyses with the Surface Roughness Analyzer – SRA help you evaluate the contribution of roughness to the wettability of your sample or to the adhesion of coatings:

- Coatings and other surface modifications
- Biocompatibility of implants
- Bonding processes
- Construction and building material
- Roughness contribution to paper wettability

MEASURING OPTIONS

- Displaying the topography of samples on a wide scale from surface roughness up to the shape of whole workpieces
- Calculation of sample parameters such as dimensions, angles, radii
- Analyses according to different standards, such as ISO 25178
- Very fast measurements making it optimal for QC
- Available as lab instrument or as measuring head for robotic systems
- Direct data evaluation in optional MountainsMap® software

Measuring head for robotic systems



ALWAYS CLOSE TO YOU

At KRÜSS, we combine technical know-how and scientific expertise with plenty of passion. That is why we not only produce high-quality measuring instruments for surface and interfacial chemistry – we offer a unique combination of product and scientific consulting. Our continuous know-how transfer ensures that not only we at KRÜSS keep pace with scientific developments, but also our customers.

In this way, we help you to optimize and make better use of your technologies. This has made us the global market leader in the field of surface and interfacial tension measurement. As a matter of course, we will gladly support you with further information as well. Feel free to ask us about publications, application cases, and helpful information about other KRÜSS products. We are always close to you.



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