



## KRÜSS presents a new tensiometer and a QC solution for wettability testing

*At analytica 2022 KRÜSS will unveil the all-round tensiometer Tensíio and the technologically innovative contact angle instrument Ayríis for the first time.*

**Hamburg, June 2022** - Under the heading Generation íí, KRÜSS will be present with two new measuring instruments at analytica 2022 in Munich, Germany. The Tensiometer Tensíio from the Hamburg-based solution provider for interfacial analysis combines technical innovations with great flexibility in individual equipment. Ayríis is the world's first instrument for measuring *3D Contact Angle* and, as a mobile stand-alone solution, performs reliable, unambiguous testing for quality control (QC) and is free of user intervention or result interpretation.

### Tensíio - modular universal tensiometer for liquid and solid surfaces

In addition to many technical innovations and intuitive operation with an integrated touch display, KRÜSS places particular emphasis with Tensíio on individualized equipment options for the respective needs of the user. For example, a force sensor with very high resolution is available, which is suitable for tasks such as measuring low interfacial tensions or the wetting of single fibers. For standard tensiometry tasks, such as the measurement of critical micelle concentration (CMC), the alternative force sensor in the medium resolution range is completely sufficient. Temperature control is possible via an external liquid thermostat, as with comparable instruments, but more flexible and space-saving are integrated temperature control solutions covering a range between -15 and 300 °C. Other optional components expand the possibilities for analyses of solid surfaces. These include an ionizer that removes interfering static charges or a camera that is used, for example, to measure adhesion on hydrophobic surfaces.

The positioning system for the sample stage has the largest dynamic range to date in the segment of tensiometers based on force measurement. The particularly high maximum speed saves preparation time for each measurement. On the other hand, extremely slow movements with excellent smoothness ensure precise results for analyses of highly viscous liquids or for contact angle measurements using the Wilhelmy method. Another new feature is the electronic bubble level for instrument alignment, which provides feedback when the instrument is not level to ensure high accuracy. Also new is the multicolor illumination, which can, for example, indicate successful measurements with green light and results outside predefined values with red light.

### Ayríis - novel contact angle technology for user-independent wetting measurements in quality control

Contact angles reflect the wettability of a material and are often used for testing surfaces that have been pretreated or cleaned before coating, printing, or bonding. For industrial quality checks of large sample quantities, the method was previously only of limited use because it could not always be applied automatically, and the results often still had to be reviewed.

With Ayríis, KRÜSS has optimized the contact angle method for quality assurance and developed the first solution for measuring the *3D Contact Angle*. The instrument creates a virtual 3D model of the water drop dosed during the measurement and determines the contact angle reliably and always automatically on the basis of this spatial image. The measurement takes only seconds and requires no prior knowledge or training. To prepare the QC checks, sample types can be created via the touch display and tolerance limits for the contact angle can be set. Together with the contact angle result, Ayríis gives a clear passed/failed message based on the defined limits without any necessary evaluation by the inspector.

The novel, highly complex technology for the *3D Contact Angle* works with 90 LEDs arranged in a measuring head with precise positioning, whose reflections by the drop are recorded by two cameras. A realistic, virtual 3D model of the drop is created from the analysis of several reflection patterns in rapid succession and a distance measurement by two laser detectors. Ayríís is designed as a mobile, robust instrument for measurement directly at the production site. It operates completely self-sufficiently, using commercially available, rechargeable batteries and equally easy-to-change cartridges of pure water designed for up to 4,000 measurements. This enables almost uninterrupted use in shift operation.

At analytica 2022 in Munich (Germany) from June 21 to 24, KRÜSS will present the two innovations at booth A1.309. Those interested in the Tensiío and Ayríís measuring instruments can also find out more on the company's website at [kruss-scientific.com/tensiio](https://kruss-scientific.com/tensiio) and [kruss-scientific.com/ayriis](https://kruss-scientific.com/ayriis).

## Images



Tensiío - the new universal tensiometer from KRÜSS with many individual equipment options



Ayríís - reliable, mobile wetting tests for quality control with the novel *3D Contact Angle*

## 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), the US, China, and many more countries 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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