



A novel KRÜSS dosing solution for extremely fast surface free energy measurements

- Surface free energy measurements within seconds by dosing two liquids simultaneously
- Fully automatic analyses, easy to prepare and operate
- Particularly suited for quality assurance on cleaned, pretreated, or coated surfaces

Hamburg, February 26th, 2015 – KRÜSS GmbH has developed a novel, double-dosing system for performing wetting analyses on solid surfaces. Used in conjunction with KRÜSS contact angle measuring instruments, the DS3252 dosing module performs fully automated surface free energy (SFE) determinations within a second. Such extremely short measurement times make this new dosing solution particularly suitable for quality assurance processes during cleaning, pretreatment and coating of solid materials. The system's precise, reproducible analyses and scientific evaluation methods offer powerful benefits for research and development as well.

Available from April 2015, the dosing unit has two pressure dosing mechanisms working in parallel, each simultaneously dispensing one drop of the test liquids water and diiodomethane onto the sample. As the volumes involved are highly precise and the kinetic energy is minimal, the process – despite its speed – is equivalent to gently dispensing a drop from a dosing needle. Most importantly, this non-contact method eliminates the risk of contamination or damage caused by inadvertently touching the sample. Cartridges that operators can remove quickly and fill directly with test liquids make the dosing system easy to handle. One filling is enough for approximately 1000 SFE determinations.

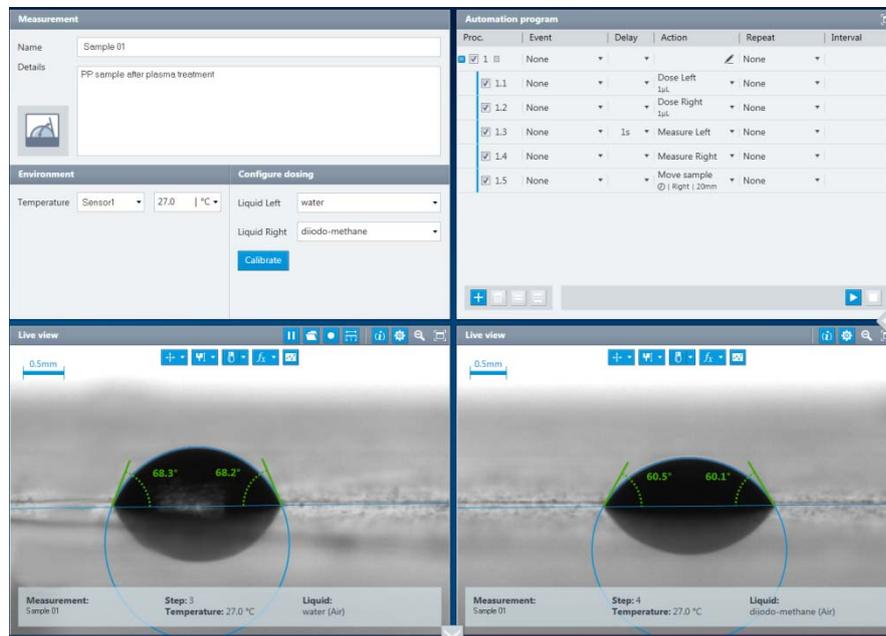
The evaluation method developed alongside the double-dosing system also contributes to the speed of the assay: the image field of the high resolution camera is split into two video windows for viewing both drops at the same time in order to analyze the drop contours in parallel. The software then uses the resulting contact angles to calculate the SFE of the solid. The entire process, from the point when dosing starts up to the SFE calculation, is fully automatic and complete within a second. For this innovative "One Click SFE" method KRÜSS has a patent pending regarding the novel dosing technology.

The analysis sequence is defined in a measurement template, which can be generated quickly and easily. If the measuring instrument is suitably equipped, this sequence can be combined with any software-controlled sample stage movements, enabling fully automatic sample analyses with predefined measurement positions. With such an easy-to-prepare test sequence for a highly automated system, operator errors are almost ruled out.

About KRÜSS GmbH

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, technical service, our Customer Support Lab and our Surface Science Center for professional measurement services. Our exclusive distribution network and our subsidiaries in Hamburg, 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.

Image



Determining SFE by evaluating two dosed drops of liquid in parallel

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