Mobile and fast quality control of cleaning and coating baths

- parts2clean 2018: KRÜSS presents the Bubble Pressure Tensiometer – BPT Mobile for surface tension based surfactant content monitoring
- Mobile solution using an intuitive touch display with integrated graphical evaluation
- Avoids laborious cleaning and supports quality managers in the design of the monitoring process

Hamburg, September 27, 2018 – KRÜSS will be presenting a novel solution for quality control of industrial baths that contain cleaning or wetting agents at part2clean in Stuttgart (Germany) from October 23 to 25. The new Bubble Pressure Tensiometer – BPT Mobile is an instrument for determining the surfactant content by means the dynamic surface tension (SFT) of a solution. Working independently from a computer or the power grid and providing results within a few seconds, it is particularly suitable for regular quality checks.

Whether an industrial bath obtains the required cleaning or wetting effect depends on the concentration of free surfactant, which decreases over time due to contamination of the bath or adsorption at the workpiece. The dynamic SFT reacts particularly sensitively to changes of the surfactant concentration so that bubble pressure measurements with the BPT Mobile quickly and reliably reflect the bath's quality.

Time-saving measurements and ergonomic use

The BPT Mobile is equipped with a color touch display for especially simple operation and ensures that every desired function is accurately triggered thanks to the comfortable size of 5''. The display also responds to the touch with lab gloves without any problems. The instrument saves time particularly due to the ad-hoc analysis of the results. Whether the measured value lies within a defined quality range is visible at a glance. Moreover, the tendency of the surfactant content becomes immediately obvious thanks to the automatic graphical representation of the course over any given time period. Thus, predictions can be made about when further dispensing will be required or the bath will have to be renewed instead of having to react quickly when a critical SFT value was reached. Using measurements in the *Continuous* mode of the instrument, it is even possible to monitor the change in SFT while dispensing a surfactant.

Error-free quality control using reference values

How the SFT correlates with the concentration and at which surface age the bubble pressure method works in the most sensitive way depends on the kind of surfactant used. The BPT Mobile supports the important preparation step of defining the analysis parameters for the subsequent, quick quality routine. For this purpose, the instrument has a mode for measuring the dynamic SFT as a function of the surface age over a wide range between 10 and 30.000 ms. The parameters determined in this way can also be used for easy-to-create templates in order to reliably measure always under the same conditions – also with optimized parameters for different baths independently from each other.

Technical solutions for precise, simple, and robust measurements

For creating the air bubbles in the course of bubble pressure measurements, the instrument uses disposable capillaries which are inexpensive and easily exchangeable. This feature is particularly advantageous for strongly contaminating samples. Thanks to intelligent control and precise measurement of the pressure, the instrument works independently from the immersion depth to the greatest possible extent and thus also accurately performs when held in one's hand. Deviations when used by different persons are therefore virtually ruled out. Moreover, the temperature for each data point can be documented thanks to the removable temperature sensor.

The internal memory of the grid-independent instrument has room for more than two million measurements, which can be tidily sorted into folders. Whenever necessary, the instrument can be connected to a computer, behaving like a mass storage device, to export measurements to Excel with one click in order to carry out customized data analyses. The user interface of the BPT Mobile orients itself towards the familiar control logic of smartphones so that false measurements due to operating errors are practically excluded.

Live presentation and talk at parts2clean

At parts2clean, KRÜSS will be presenting the Bubble Pressure Tensiometer – BPT Mobile in Hall 3 at Stand C12 together with other QC solutions in the areas of surface cleanness and foam behavior. Moreover, Dr. Thomas Skrivanek of KRÜSS is giving an instructive talk entitled *Easy and mobile quality assurance solutions along the process chain of cleaning procedures* (October 25 at 01.00 p.m., *Expert Forum*, Hall 5, Stand B29; German language).

Photo

Bubble Pressure Tensiometer – BPT Mobile for quality control of industrial baths containing cleaning or wetting agents

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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