World's first automated foam analysis according to Ross-Miles

- KRÜSS's Ross Miles Foam Analyzer – RMFA for automatic foam analysis according to ASTM D 1173 on show for the first time at analytica 2016 in Munich
- Precise, electronic foam height measurement, initially and after standardized measuring times of exactly 60, 180 and 300 seconds
- Additional information by recording the whole temporal behavior and the drainage

Hamburg, March 30, 2016 – KRÜSS GmbH will be exhibiting its new foam analysis instrument, the Ross Miles Foam Analyzer – RMFA, at analytica 2016 in Munich. The RMFA is the world's first instrument for measuring foam height electronically according to the ASTM D 1173 standard, which is commonly referred to for investigating the foamability of foam-forming substances. Measurements with the RMFA are distinguished by high repeatability, large sample throughput and convenient data handling.

For measurements carried out in accordance with ASTM D 1173, the foam-forming solution is presented in a high, cylindrical receiver vessel with standard dimensions. A second quantity of the same solution is introduced from above by means of a likewise standardized reservoir. This passes through the column and forms foam as a result of the turbulence on mixing with the receiving phase. The foam height is measured as soon as the reservoir is empty and also after 60, 180 and 300 seconds. Up to now, the height and time have had to be recorded manually. Results were therefore dependent on the user and were subject to a corresponding uncertainty. With the RMFA, this is belongs to the past.

Repeatable measurements – electronically and exactly to the norm

The RMFA integrates the standardized vessels according to ASTM D 1173 in a newly developed measuring device for electronic height measurement. An LED bar and a sensor bar are fitted along the easy-to-insert intake vessel. The foam height is detected based on the difference in brightness at the foam-air boundary – a measuring method which KRÜSS also uses successfully in the Dynamic Foam Analyzer – DFA100.

The electronic height detection ensures considerably improved repeatability of the measurement and, with a resolution of 0.4 mm, achieves a previously unattainable precision. The initial foam height measurement does not have to be manually coordinated with the discharge of the reservoir solution. Instead, it corresponds to the electronically detected time at which the maximum foam height is registered. The other measurement times are also adhered to exactly. As well as the foam height, the instrument also records the height of the liquid. In this way, the raw data document whether the filling level specified in the norm has been accurately maintained.

As well as improved reproducibility and accuracy, electronic data measurement also saves a great deal of time, as the measurement no longer has to be followed live. The user therefore gains five minutes with every foam analysis, which he can use to prepare the next surfactant solution, for example.

Easy-to-use software with clear data processing

The RMFA is used with KRÜSS's universal ADVANCE software, which combines a workflow-oriented user interface with intuitive operation and appealing design. New measurements are set up with just one click from a measurement template which has been specifically created for analyses in compliance with the standard. After starting, ADVANCE records data for the whole transient behavior of the foam and liquid height. The Ross-Miles values are automatically singled out together with additional information relating to decay behavior and drainage. The results and raw data curves of any measurements can be displayed in common tables and charts with just a few clicks. As ASTM D 1173 recommends measurements of different surfactant concentrations, this rapid comparison of results is also ideally oriented to the standard.

KRÜSS will be showing the RMFA to interested exhibition visitors at analytica from May 10 to 13 in Munich (Hall A1, Booth 311).

Photos

Left: The KRÜSS Ross Miles Foam Analyzer – RMFA for electronic foamability measurements to ASTM D 1173 (File: KRUSS_rmfa_diagonal_ohne_basis_15cm.JPG)

Right: Detail (File: KRUSS_rmfa_detail_from_below_15cm.JPG)

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, 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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