

Dynamic Foam Analyzer

DFA100LCM



Analyzing the liquid content of foams

The Liquid Content Module – LCM for our DFA100 measures the liquid content of foams and its change with respect to time by evaluating the conductivity of foam. The results provide information on the foam formation and help you to specifically optimize the moisture and stability of foams.

The liquid content is measured simultaneously at up to seven height increments of the foam. This accurate height resolution shows how uniform the foam is and how the homogeneity changes with time.

Tasks and applications

- Foams for washing and cleaning
- Foams in foodstuffs and personal care products
- Surfactant development
- Flotation as a method for separating solids
- Firefighting foams

Measuring methods and options

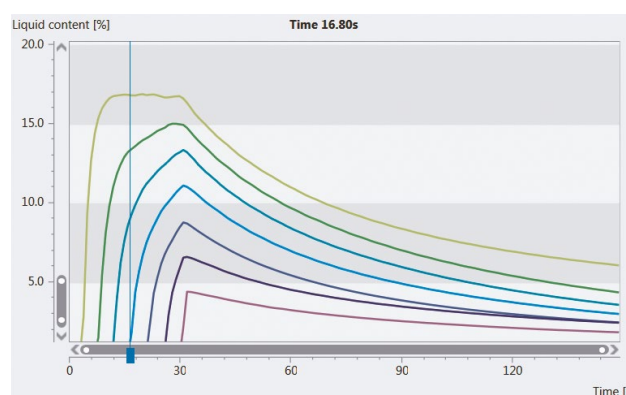
- Simultaneous measurement of liquid content at up to seven levels
- Maximum liquid content at each level
- Half life (time for the liquid content to reduce to one-half) at each level
- Simultaneous measurement of foam height and structure possible

Fast measurement of foam stability

In addition to showing moisture as a direct quality criterion for foam, liquid content measurement also reveals the stability, because the discharge of liquid from the foam lamellae (drainage) is the first sign of decay. Therefore, accurately measuring the liquid content as a function of time is ideal for evaluating foams in the range of long-term stability. Since it is not necessary to wait until the foam height decreases, detecting moisture can save measuring time and significantly increase sample throughput.



Conductivity sensors for analyzing liquid content



Time-dependent liquid content measured at seven levels

Accurate moisture analysis at seven height levels

The liquid content is measured simultaneously at up to seven height increments of the foam. This accurate high resolution shows how uniform the foam is and how the homogeneity changes with time. This information is relevant for many foam products, such as food foam, which should have the same consistency everywhere, even after a long time. Liquid content measurement can be carried out simultaneously with foam height detection and foam structure analysis.

Specifications

Electrodes

Material	35 µm copper, finish: chemical gold
Highest sensor position	185 mm
Measured entity	electrical resistance in Ω
Theoretical measurement range	10 Ω to 2 MΩ

Analyzed characteristics

liquid content, drainage, and foam stability

Results

- liquid content at 7 sensor positions
- resistance at 7 sensor positions
- 25%, 50%, and 75% liquid content time