

Foam Tester

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Measuring foam formation and decay speed for quality control – reliably and reproducibly

Foam is a welcome companion to many products, but almost as often it is a nuisance that must be avoided. Either way, for quality control of your products and processes, it is necessary to exactly determine the foaming behavior of the liquids and foam-inhibiting additives involved. The easy-to-use Foam Tester carries out this task reliably and in an exactly repeatable manner. Using accurately controlled gas flow and precise electronic foam height measurement, the instrument gives you significant results for the foaming capacity of your liquid and the decay speed of the resulting foam.

Tasks and applications

- Foam-inhibiting and foam-reducing agents (anti-foaming agents/defoamers)
- Foam prevention for paints and varnishes, process and waste water, or cooling lubricants
- Foams for washing and cleaning
- Foams in food and personal care products
- Firefighting foams
- Flotation as a method for separating solids

Measuring methods and options

- Maximum foam volume and height
- Foam capacity
- Decay curves: total height and volume as well as foam and liquid height and volume at each measured point in time
- Time values for the reduction of liquid volume in foam and foam volume to 50% (foam half-life)
- Sample temperature

Comprehensive and automatic assessment of the quality of foam-forming liquids

Having full control over the foaming behavior of a liquid requires reliable foam tests. However, many of the devices and test procedures available involve user-dependent foam formation methods and result readings, which makes it hard to optimize foam formation and prevention based on solid numbers. The Foam Tester is designed to fill this gap. It provides for standardized foam formation by electronically controlled gas flow and for objective result reading thanks to precise, electronic foam height detection. The measurement is carried out automatically and user-independently using intuitive and easily adaptable automation programs.

By recording the total height of foam inside the measuring column and the liquid height beneath the foam, data are related to the absolute amount of foam and also give conclusive results for the liquid content and flow-out speed (drainage). All in all, the Foam Tester provides the key results for assessing the quality of the foam-forming liquid.



Ergonomic sample holder



Precise detection of liquid-foam boundary

Specially designed to test foam prevention capabilities of liquids and additives

In many products and processes, such as cooling lubricants or spray painting, foam formation can directly affect quality. Even unstable foams are a problem when the liquid is in permanent motion and foam is created faster than it decays. Quality control for such liquids and the defoamers/antifoamers involved requires an instrument that captures the formation and stability of foam even if it breaks down quickly. The Foam Tester does this job by recording the decay curve with a particularly high data rate. Moreover, automated cycles can reveal whether the foam level decays fast enough or rises from measurement to measurement.

To adapt the measuring conditions to the real process, measurements can be carried out temperature-controlled at up to 90 °C or with externally connected gases such as carbon dioxide.

Specifications

Line sensor

Sensor resolution	1728 × 1 px
Height resolution	200 dpi 0.125 mm
Temporal resolution	5 fps
Scanning length	216 mm

Operation

Gas flow rate (internal)	0.2 to 1.0 L/min
Gas flow rate (external)	0.05 to 1.0 L/min
Approved gases	air, nitrogen, carbon dioxide
Approved pressure	5 ± 0.5 bar
Temperature range	4 to 90 °C

Illumination

Type	LED
Wave length, dominant	469 nm (IR: 850 nm)

Analyzed characteristics

foamability and foam stability

Results	<ul style="list-style-type: none"> ■ foam, liquid, and total height ■ foam capacity ■ foam half life time ■ drainage half life time ■ sample temperature
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