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FOAM STABILITY ANALYZER - FSA

The instrument automatically checks the collapse of the foam top over particular period of time which corresponds with customer's evaluation. Foam is created in the cuvette by 3 different ways with the corresponding methods of its collapse measurement.

- 1. Measurement of the collapse of foam created by high pressure method according to NIBEM method**
- 2. Automatic measurement of the collapse of foam created by pouring beer from the bottle**
- 3. Measurement method of foam collapse when foam is created from the non-gas-saturated liquids**

1. Measurement of the collapse of foam created by high pressure method according to NIBEM method

Nibem method measures the period of foam collapse at three different heights after 10, 20 and 30 mm of foam collapse using the system of the electrodes. The central probe is plunged in the foam and slowly moves further into the foam. If any of the electrode sensors except for the central one touches the surface of foam the movement down is stopped till the moment when the contact is interrupted because of the foam collapse - after this procedure the electrodes start to move down again and the whole process repeats. The measurement starts once the foam collapsed for 10 mm under the lip of the cuvette. The measurement continues till the foam collapse for another 30 mm i.e. 40mm under the lip of the cuvette. Sample withdrawal is very important for measurement reproducibility. Beer is withdrawn from the beer bottle or can under the pressure of the 2 atms. with the help of the sampler ICAS and the Flasher where the foam is created.

2. Automatic measurement of the stability of foam created by pouring beer from the bottle into the glass

Beer is filled straight from the bottle or can into the measuring vessel which imitates the pouring of beer in reality. The time of filling is recorded to adjust the speed of foaming and to standardize the way of measurement. The filling is interrupted after the first contact of an electrode sensor with the foam surface. The electrodes are movable and ride down depending on the foam collapse but the electrodes do not move when they are in touch with the foam surface. The instrument measures the time of foam collapse at three different heights (preadjustable by the user) for example after 10, 20 and 30 mm of foam collapse. The fourth couple (height/time) corresponds to the total height of the created foam and to the time of its complete collapse. This corresponds to the pouring of foam in reality of the specified height and measurement of its total collapse according to the consumer.

3. Measurement method of foam collapse when foam is created from the non-gas-saturated liquids

Except for the before mentioned methods it is possible to create foam with the gas non-saturated liquids (for example unhopped or hopped wort) in the measuring vessel by either mixing, air (or another gas) bubbling, or a combination of mixing and air bubbling. Then the period when the foam collapsed to a particular height - 40 mm (given by the difference of the electrode heights) is measured. It is possible to change the speed of the mixer and the passage of the bubbling gas which helps to create foam of a different quality from a thin foam to a very thick one. Different kinds of foam disintegrate for different periods of time depending on the foam structure. Reproducibility (with the tests which are kept later) is ensured by saving the value of the mixer speed and gas passage in the instrument memory. The period that is necessary to create foam (the time from switching on mixing to its switching off) is also recorded.

Technical parameters:

Voltage system: supply voltage: 230V/50Hz, protection: IP 20, 200 W

Memory capacity 400 measurements

Dimensions (h x w x d) 530 x 390 x 300 mm

Weight 5 kg

Display LCD 100 x 40 mm

Interface RS 232

Range of measurement

Electrode sensors movement 0 ÷ 54 mm

Time measurement 0-999 sec

Accuracy:

Accuracy of foam collapse measurement 1 mm

Accuracy of the time measurement of the foam collapse 1 sec

Adjustable data:

- gas flow for foam creation in the gas non-saturated liquids with the help of the flow indicator with needle regulating valve.
- mixer speed to create foam in the gas non-saturated liquids with the help of the membrane keyboard.

