DFA

Dynamic Filtration Analyzer

DFA – Dynamic Filtration Analyzer

DFA Dynamic Filtration Analyzer determines quickly and accurately the influence of chemicals on the filtration characteristics of fiber suspensions by an automatic analysis of drainage and retention.

The DFA is operated by a PC. The user-friendly software controls the measurement and allows a sophisticated analysis and reporting of all results. In order to simulate different process conditions, all relevant data to configure a mixing profile is stored and used for automatic measurements.

The user selects a mixing profile or sets all relevant mixing parameters before starting the measurement. After that the DFA stirring chamber fills with the fiber suspension. The selected mixing profile starts to stir the suspension as per set parameters. A dosage of chemical additives during the stirring process is possible to influence the drainage and retention process. Thru the use of audible prompts the user is notified when to introduce any chemicals. A valve opens automatically when the mixing process is finished. Filtration through selected screen starts immediately.

Filtrate is continuously measured with approximately 5 sample points per second. The quantity of filtrate is shown on a graph as a function of time. The computer software allows displaying different graphs, comparing results, adding all kinds of parameters to graphs or creating comparable graphs. E.g. the quantity of dosed chemicals can be compared to the dehydration velocity. The export of all measurement data into an EXCEL-spread sheet for further analysis and data storage is possible. The instrument also has an integrated pH-measurement

Retention Measurement:

The DFA system is equipped with the possibility to calculate Total Retention and Filler Retention. A filtrate is produced by the DFA system for determining the retention. Different practical filtration conditions can be simulated with a magnetic valve under the filter and different mixing gears. The filter remains clean by the mixing gear. The user has to enter the filler content or the overall solid content of the filtrate and the sample in the PC and get the total or filler retention by the DFA software.

Technical Data

Dimensions:	Width: 189 mm [7.4in.] Depth: 255 mm [10in.] Height: 501 mm [19.7in.]
Weight:	17.5kg [38.6lb.] Transport case on rollers appropriate for air transportation: 10.5kg [23.1lb.]
Power Supply:	Input voltage: 85 – 264 V AC Frequency: 47 – 63 Hz Consumption maximum: 80W Fuses of the device: 1 x 10 A slow-blow
Operating condition:	Surrounding: +10°C [+50°F] to +40°C [104°F]; no condensation
Transport and storage condition:	Surrounding: -10°C [+14°F] to +40°C [+104°F]
Result:	Drainage curves (time/filtrate amount) Overall retention Filler retention pH value
Sample specification:	500ml [0.13gal.] to 1000ml [0.26gal.], solid matter consistency approximately 0.5% to 2%
Tolerable sample temperature:	+5°C [41°F] to +70°C [158°F]
Measurement unit:	Filtration amount/second
PC System requirements:	Windows 2000 / XP / Vista Operating System / USB-Port
EU-Directives:	EN 50081, EN 50082, EN 61010
Safety class:	Safety class I
Screens:	Standard screen (Schopper-Riegler): – 62 mesh screen with 0.16mm wire size – 18 mesh screen with 0.40mm wire size – 25 mesh screen with 0.30mm wire size – 40 mesh screen with 0.22mm wire size – 49 mesh screen with 0.20mm wire size

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