DYNAMIC FOAM ANALYZER – DFA100

SPECIFICATIONS

KRÜSS

Advancing your Surface Science

Product group specifications	DFA100	DFA100 FSM	DFA100 LCM
Line sensor			
Sensor resolution	1728 × 1 px	-	-
Spatial resolution	200 dpi | 0.125 mm	-	-
Temporal resolution	20 fps	-	-
Scanning length	216 mm	-	-
Operating system			
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	-	-
Stirring speed	up to 8000 rpm	-	-
Approved temperature	4 to 90 °C	-	-
Illumination			
Type	LED	LED	-
Wave length, dominant	469 nm (IR: 850 nm)	633 nm	-
Camera system			
Connection		USB 3.0	
Performance		2 fps at 1280 × 1024 px	
Diameter of minimum detectable bubble		50 µm	
Mean field of view size		position 1: 285 mm^2 position 2: 140 mm^2 position 3: 85 mm^2	
Focus		manual	
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
Software			
ADVANCE		foam analysis	

Measurement specifications	DFA100	DFA100 FSM	DFA100 LCM
Analyzed foam characteristic	foamability and foam stability	foam structure: homogeneity, stability and aging	liquid content and drainage
Results	■ foam height ■ liquid height ■ total height ■ foam capacity ■ maximum foam density ■ expansion rate ■ foam half life time ■ drainage half life time ■ sample temperature	■ mean bubble area ■ bubble count per mm^2 ■ standard deviation of mean bubble area ■ bubble size distribution ■ bubble count half life ■ Sauter mean radius ■ initial foam structure ■ final foam structure	■ liquid content at 7 sensor positions ■ resistance at 7 sensor positions ■ 25%, 50% and 75% liquid content time

General specifications	DFA100
Sample dimensions	
Minimum required sample volume	50 mL with 40 mm diameter column 20 mL with 20 mm diameter column
Temperature control	
Type	double-walled glass column
Range	4 to 90 °C [1]
Resolution	0.1 °C
Temperature measurement	
Sensor	PT100
Range	4 to 90 °C
Resolution	0.1 °C
Precision	0.1 °C
Accuracy	1/3 DIN B (±0.1 °C at 0 °C, ±0.8 °C at 400 °C)
Location	inside sample liquid
Environment	
Operating temperature	15 to 30 °C
Humidity	without condensation
Instrument dimensions	
Footprint	245 mm × 275 mm (W × D)
Height	460 mm
Weight (without accessories)	9 kg
Power supply	
Voltage	100 to 240 VAC
Power consumption	maximum 30 W
Frequency	50 to 60 Hz
Interfaces	
PC	1× USB 2.0 (+ 1× USB 3.0 for Foam Structure Module – FSM)
Accessories	
Glass columns	20 and 40 mm diameter, temperature control option
Filter plates for sparging	diameter: 14 and 30 mm
Filter plate porosities	G1: nominal maximum pore size: 100 to 160 µm G2: nominal maximum pore size: 40 to 100 µm G3: nominal maximum pore size: 16 to 40 µm G4: nominal maximum pore size: 10 to 16 µm
Material of columns and frits	borosilicate glass (norm: ISO 4793)
Material of sealings	silicone and FKM

[1] additional thermostat needed: TB14

KRÜSS

Advancing your Surface Science