Characterization methods for food and beverages

Norlab offers a whole range of testing and analysis instruments for food and beverages.

These days the challenge for the food industry is to create healthy products without losing known properties like taste, stability or sensory properties. The most important parameter for this are rheological characteristics like viscosity and elasticity. In fatty systems crystallisation could play an important role for long-term stability or prevention of bad properties like blooming of chocolate. Beverages are mostly based on emulsions like dairy products or soft drinks. All these products have short shelf life due to destabilisation effects like creaming, coalescence, flocculation or sedimentation. These effects can be controlled and monitored with the MultiScan MS 20 dispersion stability analysis method. Raw materials characterisation of powders in food industry can be controlled via parameters like density, particle size distribution or specific surface area.

Parameter	Method	Instrument
Adhesion force	Dynamic contact angle measurement	Dynamic contact angle measuring devices and tensiometers
BET surface area and pore analysis	Gas adsorption	3P micro series 3P meso series 3P sync series 3P surface DX
Density, solids	Gas pycnometry	3P densi 100
Dispersion stability	Analysis of the transmission and backscattering behaviour	MultiScan MS 20 dispersion stability analysis system
Particle dispersibility studies	Non-invasive NMR liquid relaxation technology	MagnoMeter XRS
Particle shape	Image analysis	BeVision D2 Bettersizer S3 Plus
Particle size, nanometer range	Dynamic light scattering	BeNano series
Particle size, powders	Laser diffraction	Bettersizer S3 Plus Bettersizer S3 Bettersizer 2600 Bettersizer ST
pH for demanding applications	ISFET pH sensor Measuring cheese pH Measuring meat and fish pH	ConeFET probe for cheese LanceFET probe for cheese, fish and meat MicroFET probe for cheese Si400 pH meter Si600 pH meter
Pore volume and size distribution	Mercury intrusion porosimetry	Contract analysis Please ask for a quote

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Parameter	Method	Instrument
Rheology properties of gelling agents and thickeners	Optical contact angle measurement	Optical contact angle systems
Solids concentration of suspensions	Non-invasive NMR liquid relaxation technology	MagnoMeter XRS
Tap density	Tapping volumetry	BeDensi T series
Thickeness and compacity of gelling agents and thickeners	Dynamic contact angle measurement	Dynamic contact angle measuring devices and tensiometers
Water uptake and release	Dynamic vapor sorption (DVS)	3P graviSorb series
Wettability of solid surfaces	Dynamic contact angle measurement	Dynamic contact angle measuring devices and tensiometers
Wetted surface area of suspensions	Non-invasive NMR liquid relaxation technology	MagnoMeter XRS