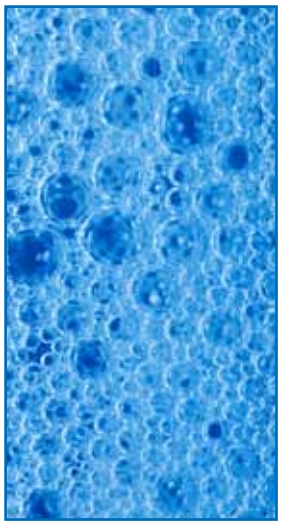
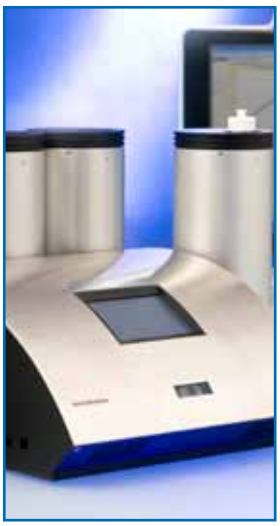
MultiScan MS 20

Measuring instrument for particle and stability characterization





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MS 20
Unrivaled automatic stability and aging analysis

Features of the MS 20
The DataPhysics Multiscan MS 20 is a measuring instrument for the automatic stability and aging analysis for a large variety of colloidal systems.
The MS 20 allows, first and foremost, the reliable characterization of the time and temperature dependant properties of multiphase systems. Additionally, it can provide information about changes in the average particle or droplet size, the relative size distribution, and in the effective concentration of the dispersed phases. It ensures the fast and precise data analysis for research and development purposes as well as for production control applications. Up to six scan tower **ST**, attachable to the base unit, facilitate time saving operations and allow direct comparisons of different samples or variability studies of the same sample.
It is designed for the software controlled measuring and analysis of:
- the time and temperature stability of dispersions and emulsions
- the sedimentation and creaming characteristics
- the particle and droplets size distribution in multiphase systems
- the coalescence and coagulation phenomena

MS 20 with five scan towers ST-TEC


Independent scan tower ST-TFC

Standard components
The MS 20 consists of the basic unit with the following technical layout:
- Base unit with attachable scan tower **ST** which are independently available
- Adaptive control of light intensity
- Measuring and control electronics for digital temperature display and control
- Barcode scanner for an easy and specific sample registration and documentation
- Integrated touch screen for basic operation and control of all connected scan towers ST
- USB interface to PC system
- Integrated power supply

Optional components and accessories
The MS 20 follows the flexible, modular DataPhysics 'construction kit principle'. The MS 20 is extendable with up to five directly attached scan towers ST with inert gas flush to prevent condensation at low temperatures below the due point. One ST is additional connectable over a cable for use in special environment or in a tilting unit
- The **ST-TFC** is the scan tower for the temperature setting by an optional liquid circulator bath
- The **ST-TEC** is the scan tower for the temperature setting by the integrated electric resistance heater and allows the individual temperature setting on each unit; with connectors for liquid counter-cooling

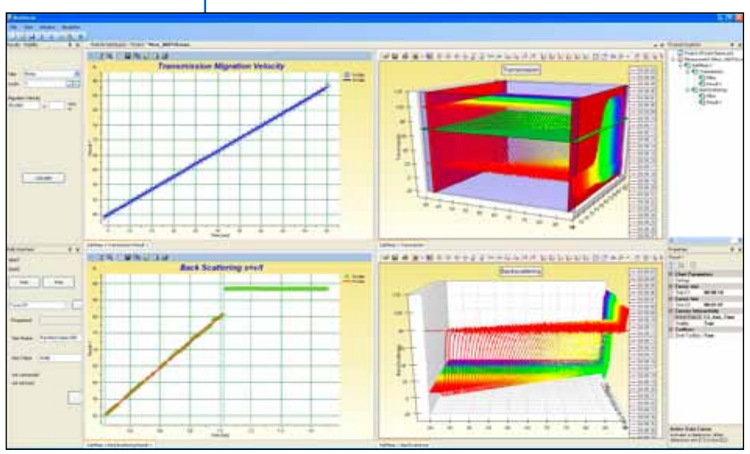
Software for efficient work
The MSC software allows the intuitive use of the MS 20 by specifying measurement procedures and in collecting, assessing, and evaluating the measured data. DataPhysics is specialised in the development of high-precise and reliable methods for evaluating suspensions and emulsions in combination with statistical error analysis.
The MSC software is designed as a modular ‚multi-threaded' program for modern multi-core CPU's; and works under Windows 7® and Vista® in 32- and 64-bit-mode.
The available software modules are:
MSC 20
- automatic hardware configuration recognition for all connected scan towers ST
- manual and project driven measurements on multiple samples simultaneously
- long term and temperature controlled measurements as well as the resumption of noncontinuous measurement processes
- representation and Multi-view data analysis for all quantities of time and temperature dependant measurements within 2D- and 3D-diagrams
- calculation of sedimentation and creaming rates and of the average particle diameters for the investigated dispersions
- work flow assistant facilitating the setup and completion of measurements and their analysis
- data transfer from built-in bar code reader

MSC 21
- calculation of the initial particle size distribution from time dependant light transmission data for mono- and poyldisperse normal distributions, logarithmic normal distributions, RRSB and GGS size distributions applied to Stokes type and Masliyah–Lockett–Bassoon (MLB) type sedimentation laws


Reducer Adapt-ST witch cuvette for small sample volumes SC 10

- calculation of local particle size distributions during the sedimentation process from wavelength dependant light back-scattering measurements for scan towers with L2 option

MSC 22
- calculation of turbidity quantities from light transmission and scattering measurements for sufficiently stable dispersions during a measurement cycle
- the calculation of turbidity data according to the standard ISO 7027 equivalent to DIN EN 27027 with a set of Formazine formulations as turbidity standards for FNU/FTU/NTU/EBC/TUF/FAU referencing



MSC 20 — stability analysis

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Technical data

Sample vessel volume:	• 2.8 ml and 24 ml
Sample vessel diameter:	• 10 mm and 28 mm
Sample vessel height:	• 75 mm
Measuring travel:	• 55 mm
Measuring travel resolution:	• 20 µm
Concentration:	• 0.1 ... 60%
Particle size:	• 0.1 ... 1000 µm
Single scan duration:	• < 10 s
Temperature range and measurement:	• 4 ... 80 °C (with optional ST-TFC and ST-TEC) • 0.1 K resolution; 1/3 DIN IEC 751 (± 0.03 %), class B
Measuring principle:	• Detection of transmission and back scattering of monochromatic NIR-radiation at a wavelength of 880 nm
Dimension (L x W x H):	• 502 x 390 x 280 mm (with two scan towers ST)
Weight:	• 8.0 kg, base unit • 2.5 kg, scan tower ST
Power supply:	• 100 ... 240VAC; 50 ... 60Hz; 300 VA

For more information about a tailor made solution to your suspension and emulsion development requirements, please contact us. We will be pleased to provide a quotation, obligation free, for your instrument system.

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