LUM

Analytical instruments for the entire life cycle of materials...

Analytical multisample photo-centrifugal filtration (ACF)

Membrane resistance & filterability with high throughput

Single Particle Optical Counting / Particle Size Distribution

Emulsions Suspensions Polymers Liposomes	Solid-Liquid-Separation Analysis	ACF for design of industrial filtration systems	Hansen Parameters & Dispersibility

Multi-wavelength Dispersion Analyser

- Get direct & accelerated stability measurements in original concentration
- Particle size distribution (PSD) with high resolution
- Run up to 12 samples at a time
- See and understand your complete sample from top to bottom
- Measure samples under a broad temperature range (4 ˚C to 60 ˚C)
- Measure particle size even at high concentrations
- Analyse concentrated samples (up to 90%)
- Acquire particle densities
- Calculate and predict shelf life

More info on LUMiSizer.com

LUMiSizer®

Particle Size Distribution: **ISO 13318**
Stability Guideline: **ISO/TR 13097**
Stability Testing of Cosmetics: **ISO/TR 18811**
Particle Density: **ISO 18747**

Multi-wavelength Separation Analyser

- Measure real-time stability directly
- Speed up separation analysis time (up to 10-fold)
- Volume and number-based PSD (ISO 13317)
- Obtain volume PSD w/o having to know refractive index
- Multi-wavelength approach
- Velocity distribution even for fast-settling particles
- Temperature stabilization from 4 °C up to 80 °C
- Handle any dispersing media: water, oils, organic solvents

More info on LUMiReader.com

LUMiReader® PSA

Asphaltene Phase Separation: **ASTM D7827**
Particle Size Distribution: **ISO 13317**
Particle Density: **ISO 18747**
Stability Guideline: **ISO/TR 13097**
Stability Testing of Cosmetics: **ISO/TR 18811**

Single Particle Optical Counter

- Particle counting & size determination
- Number concentration determination
- Direct determination of the number-based particle size distribution of nano- & microparticles
- Classification of nanomaterials
- Recording of agglomeration & flocculation kinetics
- Determination of distribution tails
- Particle contamination detection
- Separation membrane & filter medium testing, cut-off determination
- Dispersions of: carbon black, pigments, filler, pharmaceutical emulsions & suspensions, reference & smart particles

More info on LUMiSpoc.com

LUMiSpoc®

Discover LUM Filtration Accessoires

Analytical centrifugal filtration (ACF) by a multi-sample photo-centrifuge is based on STEP-Technology® using a filtration measuring module (FMM) monitoring the filtrate increase at the bottom.

- **up to 12 FMM in one run**
- **variable filtration pressure**
- **maximum pressure of up to 700 kPa**
- **typical sample volumes from 0.2 ml to 1 ml**
- **filter media thickness from few µm up to 6 mm**
- **filter media diameter 7 mm**

Read more: Analytical photo-centrifugal filtration (ACF): Membrane resistance and filterability, S. Boldt, D. Lerche, M. Loginov, F & S International Edition No. 20/2020, 15-21

Filtration measuring module (FFM)

Recent Applications include:

- Calculation of the Flux Density Function for Protein Crystals from Small Scale Settling and Filtration Experiments
- Corrosion resistant ZrO2/SiC ultrafiltration membranes for wastewater treatment and operation in harsh environments
- Modification of PVDF hydrophobic microfiltration membrane with a layer of electrospun fibers of PVP-co-PMMA: Increased fouling resistance
- A new tool for studying the filterability
- Charakterisierung von Filtermedien durch den Einsatz von Photozentrifugalfiltration
- Calculation of the Flux Density Function for Protein Crystals from Small Scale Settling and Filtration Experiments
- Integration of sedimentation analysis into the numerical simulation for designing and scale-up of solid-liquid separation units
- CO2/CH4 and He/N2 Separation Properties and Water Permeability Valuation of Mixed Matrix MWCNTs-Based Cellulose Acetate Flat Sheet Membranes: A Study of the Optimization of the Filler Material Dispersion Method
- The Effect of pH and Viscosity on Magnetophoretic Separation of Iron Oxide Nanoparticles
- Webinar ‘Particle counting & efficiency of different filter media’

LUM The NEXT STEP in Dispersion Analysis & Materials Testing

Demo & samples

Contact us for sample testing, instrument demonstrations or application support:

T +49 30 6780 60 30

M support@lum-gmbh.de

LUM social

Follow us on:

LUM community

Visit your info platform ‘Dispersion Letters’ dedicated to professionals working in various fields of R&D, QC:

DL bit.ly/3HglILZ

LUM knowledge

For further information, search the LUM Literature Database:

bit.ly/3J1mUUS

LUM GmbH, Berlin, Germany
Phone +49 30 6780 60 30
info@lum-gmbh.de
www.LUM-GmbH.com
www.dispersion-letters.com