



# KANOMAX FMT

A Kanomax Company  
NANOPARTICLE MEASUREMENT SOLUTIONS

# Liquid Nanoparticle Sizer (LNS) System

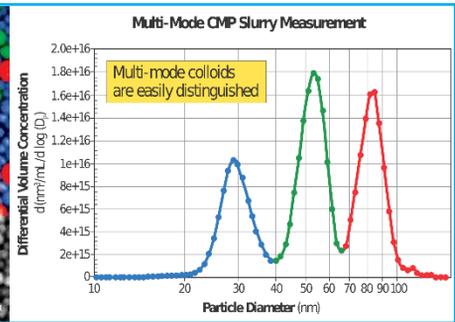
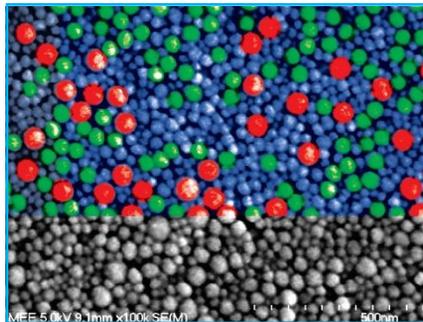
## Model 9310

## Size Nano Colloids Precisely and Quickly



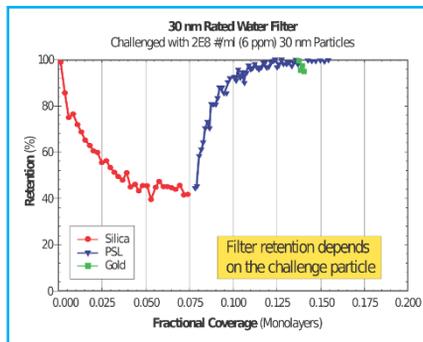
- 6 – 562 nm measurement range in under 5 minutes
- Actual quantitative, NIST-traceable concentrations
- Any particle, any shape, any composition, any distribution (including multimodal)
- Great for CMP slurry, resin rinse, bio-pharma, and filter testing.
- Online or lab operation.
- Integrated UPW dilution.

### CMP Slurry Characterized with the LNS System



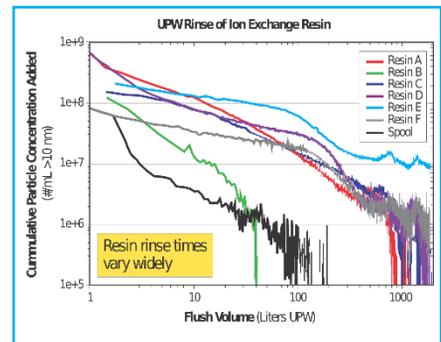
Van Schooneveld et al, Nanotech 2011: Technical Proceedings of the 2011 Nanotechnology Conference and Expo

### Filter Performance Testing



Van Schooneveld et al, American Filtration Society Spring Conference, Minneapolis, MN, 2013

### Resin Rinse Benchmarking



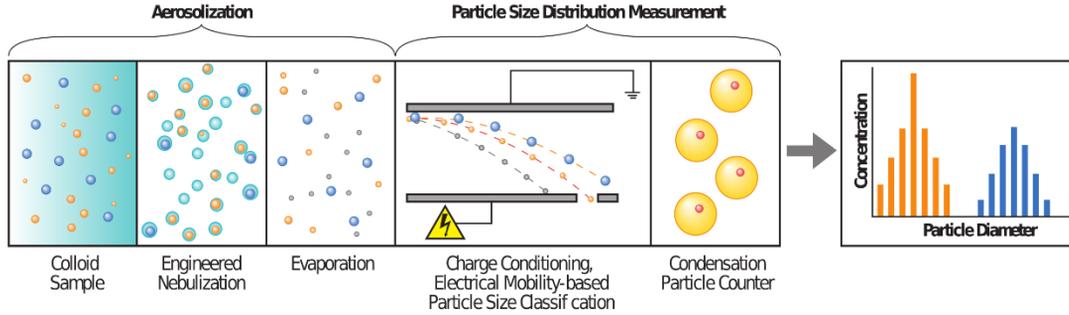
Data prepared and presented by CT Associates to the SEMI Ion Exchange Task Force on 02.27.2014

### Industry Recognition

C79-0113 Guide to Evaluate the Efficacy of Sub-15 nm Filters Used in Ultrapure Water (UPW) Distribution Systems

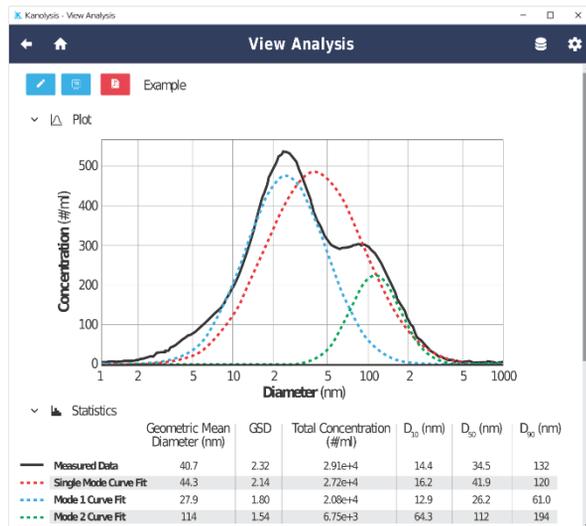
C93-0217 Guide for Determining the Quality of Ion Exchange Resin Used in Polish Applications of Ultrapure Water Systems

## Principle of Operation



## Integrated Software Platform – Kanolysis

- All-in-one control of the LNS system
- Automated sampling sequence
- Real-time data analysis



## Specifications

**Particle size range:** 6-316 nm (high resolution), 10-562 nm (wide range)  
**Particle size resolution:** 64 channels per decade of size (high resolution), 32 channels per decade of size (wide range)  
**Measurement time:** <5 minutes  
**Inspection volume rate:** 0.2-1.0 µL/min  
**Total liquid sample flow rate (online):** 50-200 mL/min  
**Dilution factor range:** 50-20,000  
**Sample conc. range (post offline and/or online dilution):** 3E7-3E11 number/mL  
**Sample percent solids (post offline and/or online dilution):** 10 ppm maximum  
**Response time to concentration change:** <90 seconds  
**Inlet water pressure (online):** 200-300 kPa (30-45 psig)  
**Compressed air flow rate/pressure:** 2.5 std L/min CDA or Nitrogen 2.8 bar (50 - 60 psi)  
**Wetted surfaces (before nebulization):** PFA, PTFE, sapphire, 316L stainless steel, PEEK  
**CPC working fluid:** n-butyl alcohol (butanol)  
**I/O Communications:** Ethernet, internal memory  
**Power requirements:** 100/115/220/240 VAC; 50-60 Hz  
**Operating temperature:** 10-35°C  
**Operating humidity:** 0-90% RH non-condensing  
**Storage temperature:** 5-35°C  
**Dimensions:** 10 × 9 × 36 inches (D/W/H) (not including peristaltic pump)  
**Software – computer operating system:** Windows 10

Refer to individual product sheets for component details. Computer not included.

Specifications subject to change without notice. The LNS System was developed in collaboration with CT Associates, Inc. The LNS System uses a soft X-ray charge conditioner.

## Patent Protected

- Patent numbers 8,272,253 and 8,573,034 have been issued to CTA and licensed to Kanomax FMT.
- Kanomax FMT has applied for additional domestic and international patents for technology contained within the LNS System.
- Patent number 7,852,465 has been issued to Kanomax.

**Kanomax FMT and the Kanomax Group have unique aerosol expertise and can deliver solutions to your nanoparticle measurement challenges. Let's get started – connect with us today!**

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