



Precision Dilution System Model 9210

Kanomax offers you the Precision Dilution System – an innovative tool that allows you to simply and inexpensively dilute any high-purity, fine-particle suspension or clean solvent. You can also use the Precision Dilution System and Kanomax NanoParticle Standards to verify your existing Optical Particle Counter (OPC) or Laser Particle Counter (LPC) calibrations.

Benefits of the Precision Dilution System

- Uses a precision, Swiss-designed, peristaltic pump for accurate dilutions.
- Offers up to 20,000:1 dilution ratio when a 1 L/min of high-purity water is available. Lower flow rates create lower dilution ratios.
- Works with stabilized Polystyrene Latex (PSL) sphere concentrations at sizes from 30 – 500 nm and Colloidal Silica concentrations at sizes from 10 – 50 nm. Concentration/size standards are available from Kanomax.
- Accommodates OPC/LPC flow rates from 10 mL/min - 1,000 mL/min.
- Performs OPC/LPC calibration verification in less than 90 minutes.
- Light weight and robust with a small footprint.
- Easy to use with simple setup procedures and limited maintenance requirements.
- Only needs access to a high-purity water system – limited additional services required.

Benefits of Kanomax's New PSL and Colloidal Silica Standards

- PSL and Colloidal Silica size and concentration measured by Kanomax's Liquid Nanoparticle Sizer (LNS).
- PSL standards now available in concentrations at sphere sizes of 20 – 500 nm.
- Colloidal Silica standards now available in concentrations at particle sizes of 10 – 90 nm.
 - PSL and Colloidal Silica standards are available at a concentration of 4E7 particles/mL.
 - Less susceptibility to particle contamination from the standards bottle than ready-to-use PSL standards.

Applications

Recalibrating an OPC/LPC currently requires either an on-site calibration by a trained technician or the return of the instrument to the manufacturer for calibration. Now, using the Precision Dilution System and verification standards, you can perform a fast and simple OPC/LPC calibration verification at your site. Whenever you purchase a new OPC/LPC, or have an existing OPC/LPC recalibrated by the manufacturer, use the Precision Dilution System and verification standards to perform an inexpensive verification that takes less than 90 minutes! Use the data you obtain as a benchmark for future OPC/LPC performance.

You can also use the Precision Dilution System as part of a system to test filter efficiency and to perform particle deposition studies on semiconductor silicon wafers.





Kanomax of Japan purchased Fluid Measurement Technologies (FMT) in July 2015 and renamed the company Kanomax FMT, Inc. (KFMT). Dr. David Blackford, the founder of FMT is now the President of KFMT. He has nine issued U.S. patents, three U.S. patents pending, and many technical publications for his innovative technologies.

Specifications

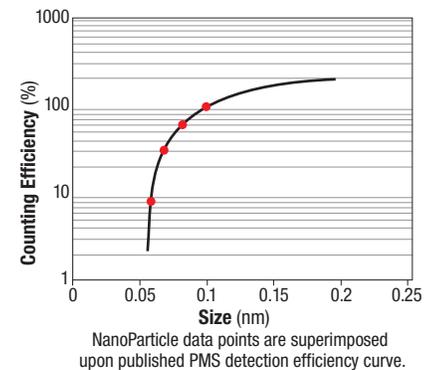
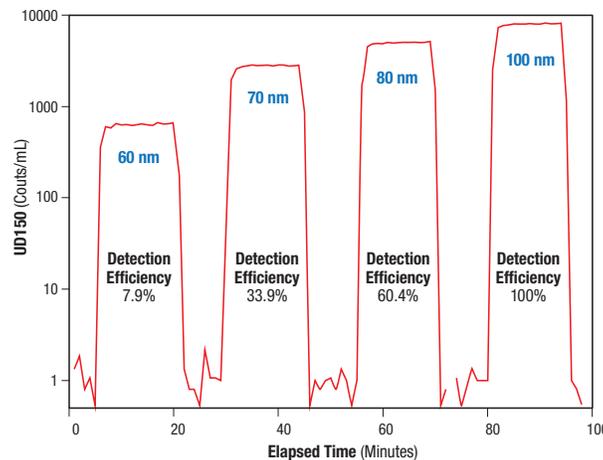
- Working fluid:** Ultrapure Water for diluting PSL and Colloidal Silica concentrations
(**Note:** Other solvents may be used with the Dilution System. Please consult the factory for guidance.)
- Ultrapure water inlet:** 1/4 inch Flaretek®
- Drain port:** 1/2 inch Swagelok®
- OPC/LPC flow rates:** 10 to 1000 mL/min
- Maximum dilution:** 20,000 (dependent upon high-purity water flow rate)
- Maximum water temperature:** 35°C (95°F)
- Pump tubing:** 0.64 mm ID Tygon® tubing
- Inlet water pressure:** 138 to 481 kPa, 20 to 70 psi (**Note:** A suitable water drain is required.)
- Critical wetted surface materials:** PFA Teflon®
- Ambient temperature range:** 15-35°C (59- 95°F)
- Ambient relative humidity:** 0-80%
- Dimensions (WDH):** 220 × 279 × 320 mm (8.7 × 11 × 12.6 in.) Width with shelf attached is 321 mm (12.7 in.)
- Weight:** 8 kg (17.5 lbs)
- Power:** 100-230 VAC, 50/60 Hz, 20VA

Specifications subject to change without notice.

Results of a PMS UDI 50 Calibration Verification

The Precision Dilution System uses a precision peristaltic pump to accurately dilute a known concentration of PSL particles into a known flow rate of Ultrapure Water (UPW).

The chart below shows a typical verification of a PMS UDI 50 calibration obtained using the Precision Dilution System with 60, 70, 80 and 100 nm particles, and a challenge concentration of 8,000 PSL particles/mL. At the 100 nm size, the OPC/LPC detects 100% of the 8,000 particles/mL >0.05 µm in the challenge concentration indicating that the OPC/LPC is within calibration specifications. However, at the 60 nm size, only 7.9% is detected because of the low detection efficiency at this size.



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