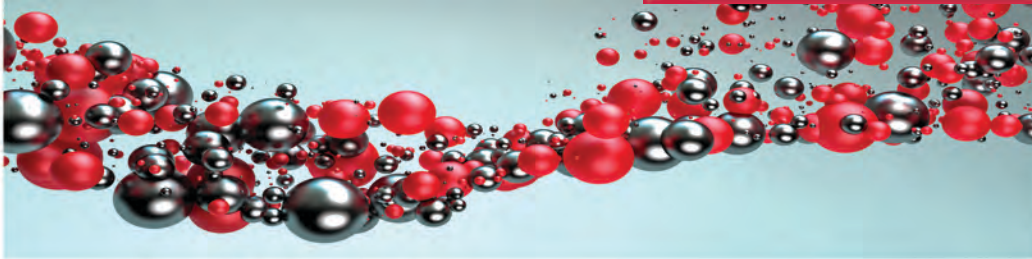


ACCUSIZER MINI CMP Slurry Monitor



Real Time LPC Counting for Accurate Process Control

Benefits

- Continuous Monitoring
- No Dilution LPC Counting
- Real Time Process Control
- Increase Yield
- Eliminate Defects
- QC Incoming Slurry
- Reduce Analysis Time, Save Money
- Manual Injection Function
- Field Calibration with LE
- Increase Filter Life
- Optional Dilution and Sensors
- ROI Measured in Months, not Years
- Built in Windows Touch PC

The New Patented AccuSizer Mini technology takes LPC Slurry Monitoring to a whole new level. The Mini allows for the CONTINUOUS, NO DILUTION, monitoring of CMP slurries at operating conditions.

The NEW AccuSizer Mini slurry monitor was engineered using a modular design approach this allows us to match our capability modules to the specific needs of our customers online CMP monitoring applications. With multiple sensor and fluidics modules available that can be mixed and matched to provide our customers with semi-custom instrumentation that will excel in their process requirements.

The AccuSizer Mini Slurry monitor reduces the footprint of our lab instrument, incorporates an integrated Windows tablet touch screen personal computer and allows for point of use monitoring with continuous data acquisition at the process line. Unlike any other instrument on the market the Mini counts and sizes hundreds of thousands of particles in minutes, not hours.

PSS has provided leading semiconductor chip manufacturers with integrated multi-point process control systems that monitor their slurry distribution systems. Our instruments have a proven track record of increasing yield and detecting LPC issues before they become problems that stop the production process or result in defects down the line.

The AccuSizer Mini is designed for the requirements of the process line. A fully embedded PLC device that can be controlled and monitored from a localized LIMS system makes for a more robust, easy use system.



Building solutions one particle at a time.

The unparalleled level of accuracy obtained via the combination of a unique single particle sensitivity and unmatched count statistics allows the AccuSizer Mini to see PPB levels of LPC's several standard deviations away from the main peak of the distribution. The competition counts hundreds of particles where we count hundreds of thousands of particles. PSS provides a high level of statistical accuracy that is unmatched by other single particle optical devices.

Figure A presents a silica slurry measured with no dilution which was spiked with a 1.59 micron latex at levels less than 1 PPB of the original slurry concentration. The data displays the tail of the slurry and the spike at 1.59 microns. The volumetric spike at 1.59 microns was calculated to comprise 1200 particles/ml. The Mini counted 1525! Note that this also includes the small amount of the slurry tail which in the next channel counted 306 particles. Unprecedented accuracy! Especially considering the extremely low concentration (ppb) of LPC's & spike in a fully concentrated slurry.

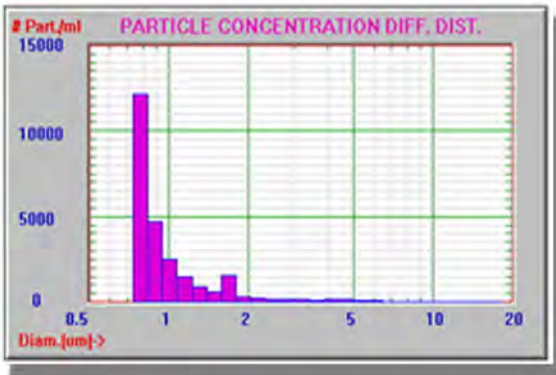


Figure A

Size Microns	LPC Counts / mL
1.38	586
1.58	1525
1.80	306

The AccuSizer Mini provides real time trending data for a slurry distribution system. The AccuSizer has a long track record, of over 10 years, as an integral LPC monitoring tool for some of the major chip manufacturers worldwide. Figure B is a real time trend graph of slurry at full concentration as it is being pushed through a recirculation loop by a diaphragm pump. The data clearly shows an increase in the LPC counts as the slurry is recirculated over time. This is a direct result of the shear stress the pump has placed on the slurry over time. One can clearly see an almost 4X increase in LPC counts in all of the 4 size channels that are being monitored. The experiment was designed with a 3 minute data acquisition cycle.



Figure B

The AccuSizer Mini takes proven SPOS technology and brings it into a whole new light allowing for analysis of fully concentrated CMP Slurries and real time data acquisition. These new patented capabilities place PSS and the AccuSizer Mini in a class by themselves. Call us to learn more about how our unique products can provide you with the solutions to your most complex particle sizing and counting applications.

Features

- **Accurate Results**
- **Great Statistical Count**
Accuracy > 300,000 LPC's/min
- **Single Particle Sensitivity**
- **High Resolution Sensors**
Up to 512 discrete size channels
Up to 32 user defined channels
- **Quantitative Results**
- **Optional Sensor Ranges:**
FX Nano 0.15-10 microns
FX 0.7 - 20 microns
LE 0.5 - 400 microns
- **Built in PC Controller**
- **Modular Fluidics Options**
PND - Pump NO Dilution
CMS - Continuous Mixed Stream
LMD - Loop Metered Drain
VMD - Variable Mixed Dilution
LAD - Loop Automatic Dilution
APS - Automatic Particle Dilution
- **Manual Injection for field testing**
- **Sensor Calibrations**
FX - Field Verification
FX Nano - Field Verification
LE - Field Calibration / Verification

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