

## **Evaluating a Novel Liquid-Borne Particle Counter Based on Interferometry: Experimental Testing**

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### **Abstract**

A new liquid-borne particle counter is based on interferometry and uses bright-field rather than dark-field detection. This article details the results of an experimental evaluation of the operating characteristics of the sensor. The sizing accuracy of polystyrene latex spheres by instrument in deionized (DI) water is presented and its response to particles in semiconductor process chemicals is compared to the response of dark-field light-scattering sensors. Its ability to measure flow rate was also determined in several semiconductor process chemicals. The evaluation verifies that the interferometric counter has good sizing accuracy, rejects gas bubbles, and is apparently noise insensitive. It measures higher particle concentrations in process chemicals than do dark-field instruments and detects particle events that go unperceived by dark-field counters, despite its low sampling rate.