AccuSizer® Sensors

CHOOSE THE RIGHT SENSOR FOR YOUR APPLICATION

Entegris offers a range of sensors based on the single particle optical sizing (SPOS) technique to measure particle size and concentration. Over thirty years of development and advancement has created a unique series of sensors designed for specific applications.

The LE-400-05 sensor includes both extinction and scattering detectors to measure particles in liquid from 0.5 – 400 µm. Figures 1 and 2 show how the combination of extinction and scattering is used to provide this wide dynamic range. The upper concentration (coincidence) limit of the LE-400-05 sensor is 10,000 particles/mL. This sensor can be used for both contamination monitoring and for high concentration particle size analysis when coupled with one of our many auto-dilution samplers such as the AccuSizer® AD or AccuSizer APS system.

The FX sensor uses a focused laser beam (Figure 3) and extinction detecting to reduce the inspection zone, thus greatly increasing the upper concentration limit to ~10^6 particles/mL. This is the preferred sensor for higher concentration samples like CMP slurries.

The FX Nano sensor uses a high power focused laser beam and scattering detecting to extend the dynamic range down to 0.15 µm. This sensor can be used stand alone or in conjunction with the LE-400-05 sensor to provide an exceptionally wide dynamic range for samples like aggregated proteins.

The FX and FX Nano sensors are not used for low concentration contamination applications such as pure water/chemicals. These sensors are used for particle size analysis at higher concentrations but still provide highly accurate concentration data in particles/mL. A de-convolution algorithm is used to generate results since the focused laser beam does not measure 100% of the flow through the sensor.

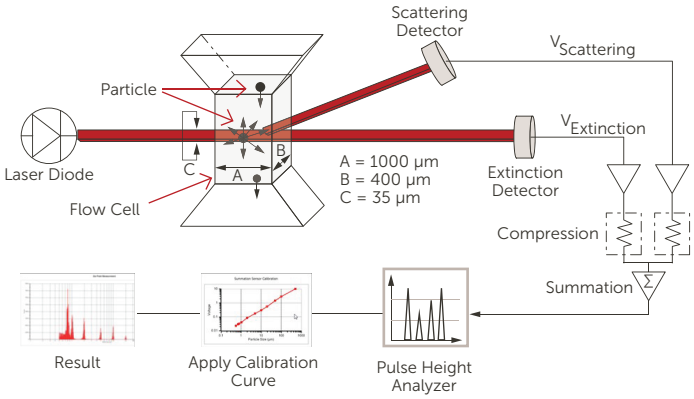


Figure 1. LE-400-05 sensor operation

Figure 2. Inside the LE-400-05 sensor

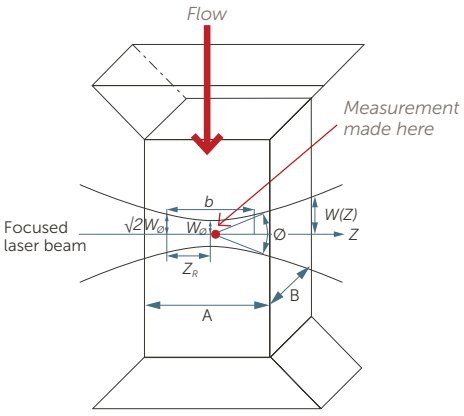
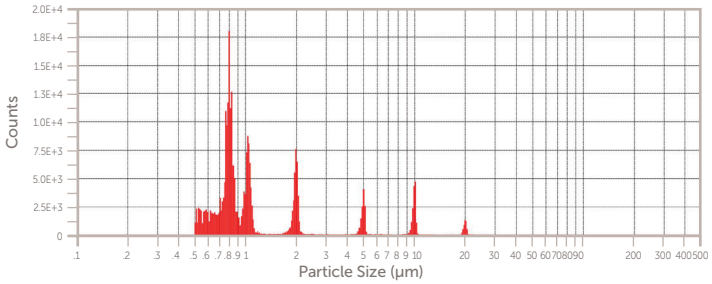


Figure 3. Focused beam FX sensor

SPECIFICATIONS*

LE-400-05	Extinction + scattering, collimated laser beam (100% inspection) Range: 0.5 – 400 µm Concentration limit: 10,000 particles/mL Sensitivity to 10 PPT Size Accuracy: 2% Count accuracy: 10% Flow rate: 60 mL/min or custom calibration
FX	Extinction only, focused laser beam Range: 0.7 – 20 µm Concentration limit: ~ 10^6 particles/mL
FX Nano	Extinction + scattering, focused laser beam Range: 0.15 – 10+ µm Concentration limit: ~ 10^6 particles/mL

Six Point Measurement



** Sample dependent and may require hardware options, subject to change without notice.*

FOR MORE INFORMATION

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