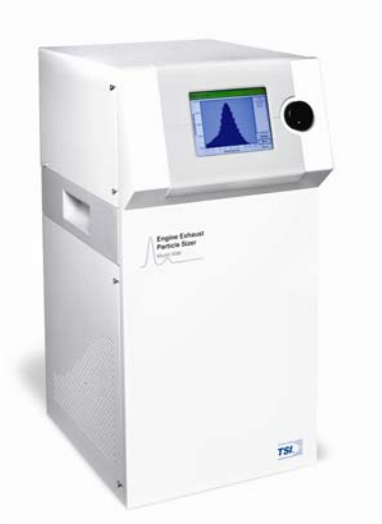
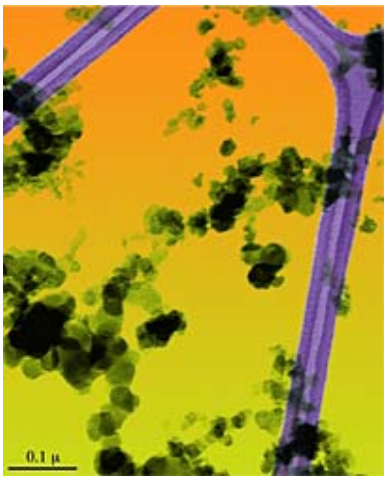
Engine Exhaust Particle Sizer (EEPS) Spectrometer,

Model 3090 with rotating disk diluter and Software





The Engine Exhaust Particle Sizer (EEPS™) spectrometer measures the size distribution of engine-exhaust particle emissions in the sub-micrometer range from 5.6 to 560 nm with the fastest time resolution available. Users can visualize and study the dynamic behavior of particle emissions that occur during transient test cycles, during the first few seconds of a cold start, or during regeneration of a particle trap or diesel particulate filter. The EEPS spectrometer displays measurements in 32 channels total (16 channels per decade). It operates over a wide particle concentration range, including down to 200 particles/ cm^3. It operates at ambient pressure to prevent evaporation of volatile and semi-volatile particles, and it requires no consumables. Ease of operation is a key feature of this particle sizer. All components are housed in a single 32-kg cabinet that includes the vacuum source. A microprocessor measures temperature and barometric pressure automatically to convert to volumetric flow. The instrument includes features for remote operation and includes software that is unmatched in the industry.

EEPS systems employ a continuous, fast-scanning technique. Electrical Mobility measurement is similar to an SMPS measurement. Additionally, EEPS uses multiple electrometers to get multiple measurements simultaneously. EEPS feature the electrostatic classifier platform, which can be used with any Differential Mobility Analyzer (DMA), and a large selection of Condensation Particle Counters (CPCs). A classifier is used at fixed size and collects concentration data with CPC and repeat for multiple particle sizes. This is time consuming and multiple runs aren't necessarily repeatable enough to resolve fast changes. Engine exhaust test cycles have fast changing size distributions on transient test cycles. SMPS is the standard method for sizing stable engine exhaust aerosol. However SMPS has difficulty in measuring a size distribution when the distribution is changing rapidly, hence EEPS is a more suitable equipment for this purpose.

Features

- 10-Hz data collection captures transient events in real time
- Comprehensive software for data collection and analysis
- Easy to use
- Housed in a single cabinet that weighs just 32 kg
- Particle size measurements from 5.6-560 nm
- Continuous, fast-scanning technique eliminate gaps in the particle size distribution
- Measures size distributions during transient engine emissions (10 measurements per second)
- EEPS Instrument is designed specifically for measuring engine exhaust particles
- Five standard configurations for specific research needs
- Electrical Mobility measurement is similar to an SMPS measurement
- Uses multiple electrometers to get multiple measurements simultaneously
- Size resolution of 16 channels per decade and two decades of size (32 channels total)