

API Aerosizer Particle Size Analyzer (TSI Inc.)

The API Aerosizer particle size analyzer is a high speed, high resolution, aerodynamic particle size analyzer for dry powders in the size range of 0.2 to 700 μm . The API Aerosizer consists of an API Aerosizer LD sensor unit, an API Aero-Disperser dry powder dispersing system fitted to the API Aerosizer LD, a controller, and a vacuum pump (Figure 1). The API Aerosizer LD is a dual laser beam optical sensor system for time-of-flight measurements.

The API Aero-Disperser is a microprocessor-controlled dry powder dispersing and sample feed system. It provides advanced fluidization, controlled de-agglomeration, and proprietary transonic flow dispersion technology to handle difficult powder dispersion applications. The system offers a simple, rapid, and reliable method of determining the particle size distributions of highly cohesive as well as free flowing powders, without the need for costly and inconvenient solvents.

A PC with integral math coprocessor and proprietary data acquisition boards performs the task of analyzing particle time-of-flight data using cross correlation techniques. In addition, the PC calculates and displays the measured particle size distribution.

The vacuum pump is used to reduce the pressure in the sensor chamber to the appropriate low vacuum operating conditions. The vacuum pump is equipped with a HEPA filter to collect the sample after analysis to prevent particles from entering the pump, as well as an oil de-mister at the pump exhaust.



Figure 1. The API Aerosizer particle size analyzer consists of an API Aerosizer LD sensor unit, an API Aero-Disperser dry powder dispersing system fitted to the API Aerosizer LD, a controller, and a vacuum pump.



API AEROSIZER® SPECIFICATION DATA SHEET

MODEL	API Aerosizer high resolution particle size analyzer
MEASUREMENT RANGE	0.2 to 700 microns
PRINCIPLE OF OPERATION	Aerodynamic time-of-flight
SAMPLE RATE	Up to 100,000 particles per second
SAMPLE TIME	Selectable; usually less than one minute
CALIBRATION	None required
RESOLUTION	150 channels per decade
SOFTWARE	Proprietary, menu driven operation
RESULTS PRESENTATION	Tabular and graphical formats
DIAMETER TYPES	Geometric and aerodynamic
DISTRIBUTION TYPES	Number, surface area, and volume
PLOTTING MODES	Differential and cumulative
PLOT TYPE	Linear and logarithmic
ILLUMINATION	Visible laser
DETECTION SYSTEM	Dual photomultipliers
POWER REQUIREMENTS	110/240 volt 50/60 Hz

In accordance with our policy of continued product development, specifications may change without notice.