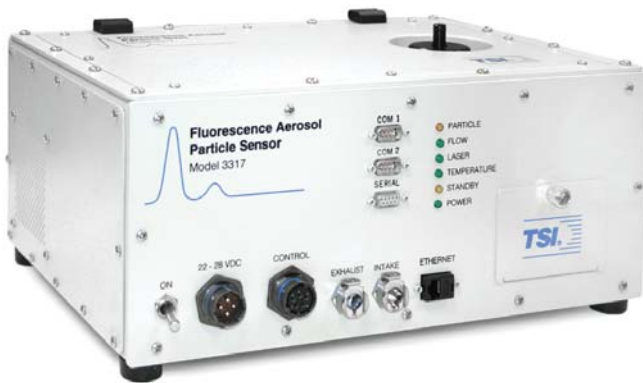


Model 3317 Fluorescence Aerosol Particle Sensor System

Measures fluorescence emissions in two wavelength bands and the scattered light intensity of individual airborne particles. Provides exceptional discrimination and interference rejection for biological threat detection.

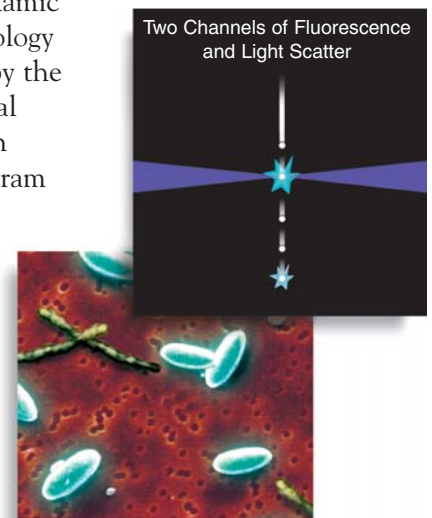


TSI's Model 3317 Fluorescence Aerosol Particle Sensor (FLAPS)[™] III System provides three real-time measurements of individual airborne particles. These correlated, single particle measurements give the FLAPS III exceptional discrimination and interference rejection for biological threat detection applications. The FLAPS III measures, for each airborne particle between 0.8 μm and 10 μm , the scattered light intensity and the fluorescence emissions in two wavelength regions. These simultaneous single-particle measurements enable end-users to distinguish biological threat agents from inanimate materials in real time.

Fluorescence and scattered-light signals are excited using a 405 nm laser diode which provides high reliability and stability and supports long service intervals. Fluorescence emissions are measured in two distinct wavelength bands by two highly-sensitive photomultiplier tubes. Real-time data analysis using advanced alarm algorithm techniques provides exceptional discrimination and interference rejection for biological threat detection.

Applications

The FLAPS III technology was designed and developed for rapid detection of biological agents. The FLAPS III is designed to operate with a particle concentrator inlet that enhances the sensitivity and reduces the response time for biological threat detection. During independent testing, the FLAPS III has been shown to be an extremely effective "trigger" for detecting airborne particles with biological agent profiles. Within an integrated biological agent warning system, the FLAPS III serves as the fast-responding sensor to initiate sample collection and identification processes to confirm or reject a biological threat condition. The FLAPS III technology evolved from TSI's Ultraviolet Aerodynamic Particle Sizer technology currently deployed by the US Army's Biological Integrated Detection System (BIDS) Program and TSI's FLAPS II technology currently used by the Canadian Department of National Defence and other biological threat detection programs worldwide.



Specifications

Model 3317 Fluorescence Aerosol Particle Sensor System

| | |
|---------------------------------|--|
| Particle Size Range | 0.8 to 10 μm |
| Fluorescence Intensity | |
| Short Visible Band | Up to 32 channels |
| Long Visible Band | Up to 32 channels |
| Scattered Light Intensity | Up to 32 channels |
| Particle Types | Airborne solids and nonvolatile liquids |
| Max. Particle Concentration | 1,000 particles/cm ³ for <10% coincidence |
| Flow Rates (Volumetric) | |
| Aerosol Sample | 1.0 L/min |
| Sheath Air | 4.0 L/min |
| Total Flow | 5.0 L/min |
| Laser Source | Laser diode, 405 nm at 30 mW, CW |
| Laser Classification | Class I per 21 CFR 1040.10b(5) |
| Storage Temperature | -28 to 50°C (-18 to 122°F) continuous -28 to 70°C (-18 to 158°F) up to 1 week |
| Operating Temperature | 0 to 45°C (32 to 113°F) |
| Operating Humidity | 5 to 95% Noncondensing |
| Dimensions (LWH) | 254 × 381 × 178 mm (10 × 15 × 7 in.) |
| Weight | 10.5 kg (23.1 lbs) |
| Power | 22 to 28 VDC, 50 W typical |
| Communications | 10/100 Base-T Ethernet; RS-232 serial (3) |
| Particle Concentration Options | Consult factory |
| Environmental Enclosure Options | Consult factory |
| Alarm Algorithm Options | Consult Factory |

To Order

Model 3317 Fluorescence Aerosol Particle Sensor System

| Specify | Description |
|----------------|---|
| Model 3317-40S | FLAPS III System |
| Model 3317-40E | FLAPS III System (with NEMA 3R Enclosure) |

Specifications subject to change without notice.

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FLAPS III System Integrated with Particle Concentrator in NEMA Type 3R, IEC IP24 Enclosure.



FLAPS III System with Concentrator, GPS Receiver, and Wireless Data Radio in MIL-STD-810F (Rain Procedure 3) and IEC IP24 Enclosure.



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