

Particulates suspended in air,
Atomized droplets, powders, spray particles and mist
Laser diffraction Particle size distribution analyzer

AEROTRAC II

0.5 to 2000 μm



Capture the moment of spraying

Features

Wide range of applications

- Droplets : Droplets from injectors, nebulizers
- Mist : Humidifiers, mist separators
- Spray : Insecticide, lotions
- Powder : Powder paint, various powders

Measurement modes to support various applications

- Key start (manual operation via keyboard)
- Auto start (automatically starts when detecting scattered light from particulates)
- Measurement start via external signal input

Accurate particulate analysis at short measurement intervals

- Measurement interval in continuous measurement: 0.02 to 500 msec
- High-precision continuous measurement is possible for particulates flying in space at the speed of sound

Provided with multiple scattering correction software as standard

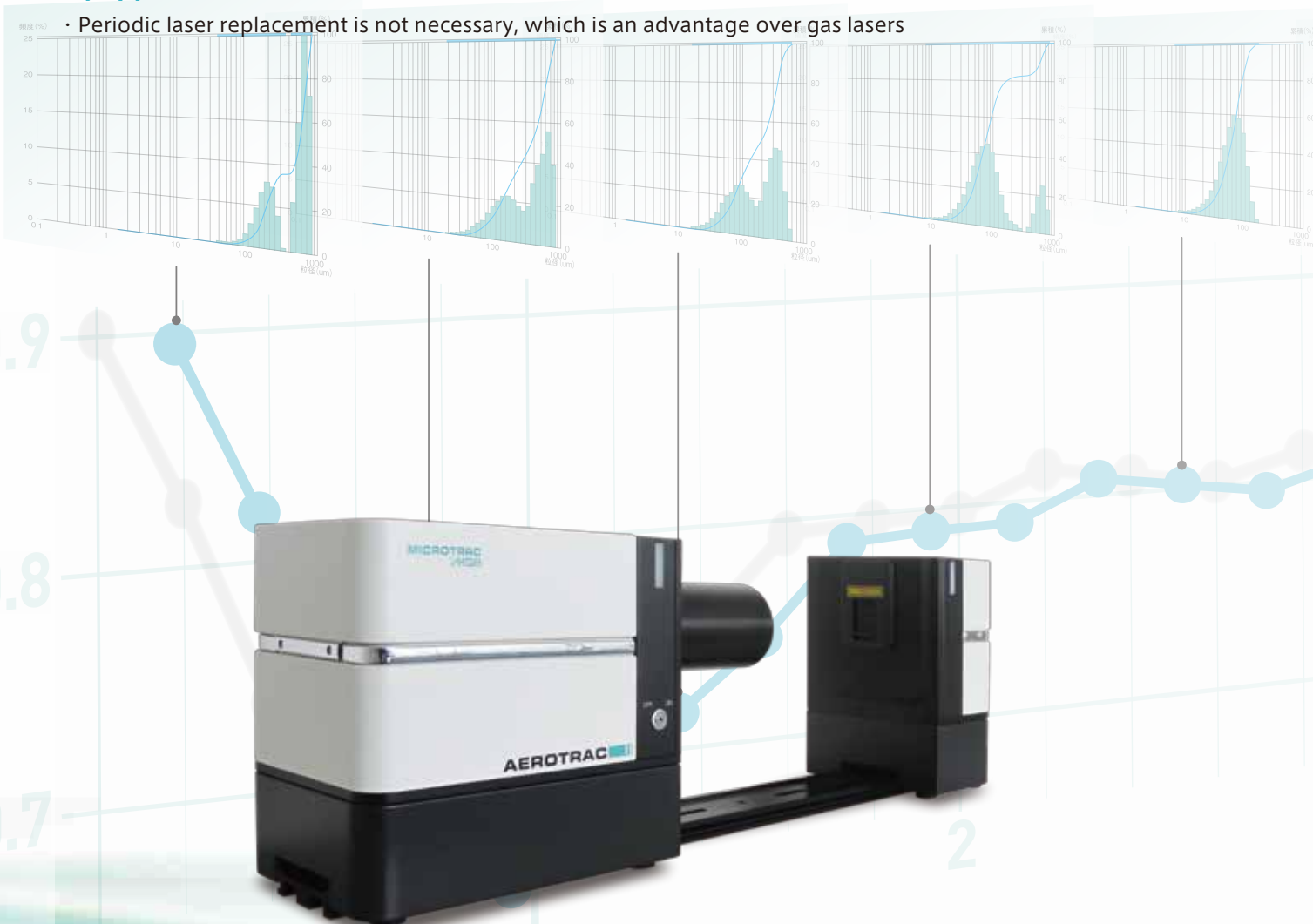
- The effect of multiple scattering of lasers is minimized, allowing accurate measurement of high density spray particulates

Compact optical stand

- The instrument can be set up in a limited space

Equipped with a semiconductor laser

- Periodic laser replacement is not necessary, which is an advantage over gas lasers

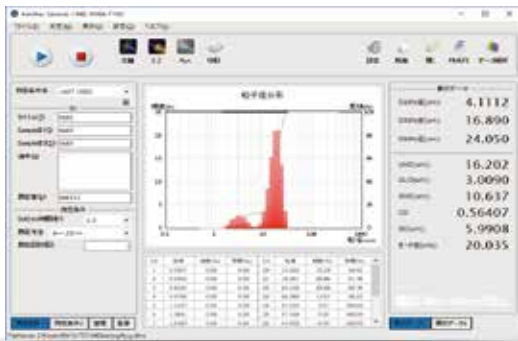


Easy-to-use software

Easy operation

Perform measurements with a click of an icon. After clicking the icon, a measurement can be performed by initializing the sample spray.

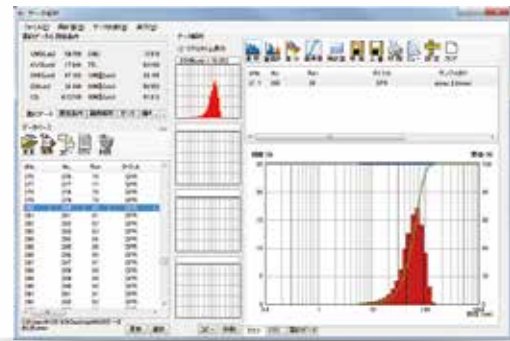
Measurement screen



Wide range of analysis functions

Capable of overlapping displays for comparison of multiple sets of data and time-series display of summary data (median diameter, SMD, light transmittance, etc.).

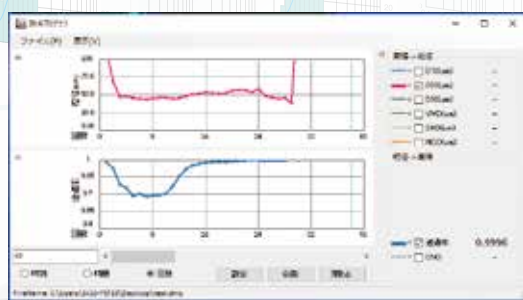
Analysis screen



Real-time monitoring and analysis of measurement results

Measurement and analysis screens can be displayed and operated in separate windows. Past data can be viewed and analyzed while performing measurement.

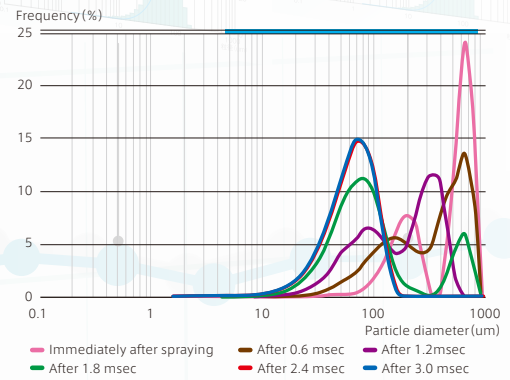
Time-series display of particle size distribution



Measurement results output

Measurement results can be output in various file formats (CSV, JPEG, BMP, EMF, PNG, TIFF, etc.). Particle size distribution graphs can be copied to the clipboard.

Overlapping display of particle size distribution



Applications

AEROTRAC II can be used in a wide variety of fields, including droplets from injectors, nebulizers, insecticides, lotions, humidifiers, mist separators, powder paint and various powders.



Droplets from injector



Nebulizers



Insecticide



Lotion



Humidifiers



Powder paint



Mist separators



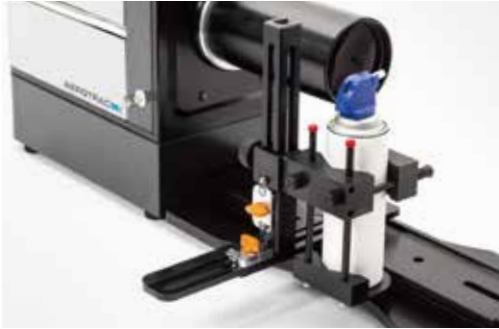
Pigments

Options

AEROTRAC II takes advantage of the optical system that has a wide open space, providing many types of measurement. Various options are available to meet your applications.

Fixing jigs to support various types of sprays

Several types of jigs are available to match various sizes and shapes of sprays. This allows spraying from the same position all the time.



Wet measurement using a batch cell

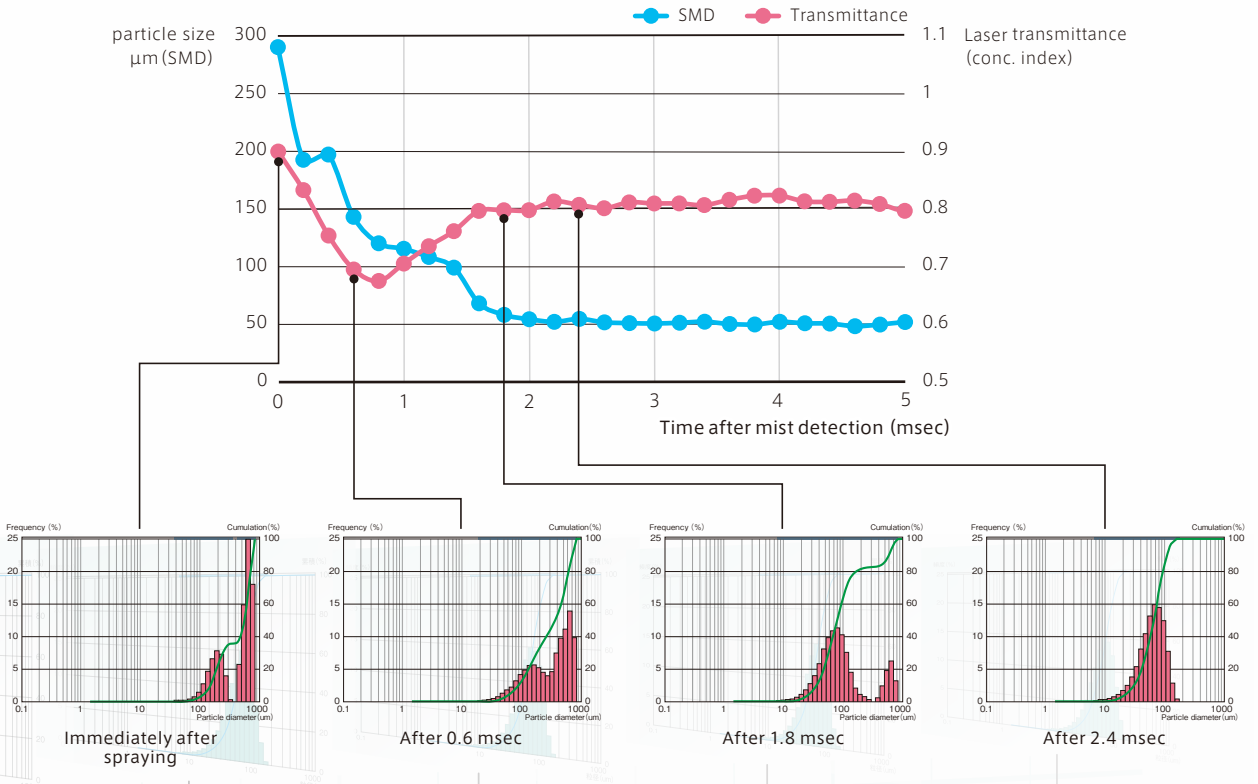
Particle size distribution in slurry can be measured by using a batch cell.



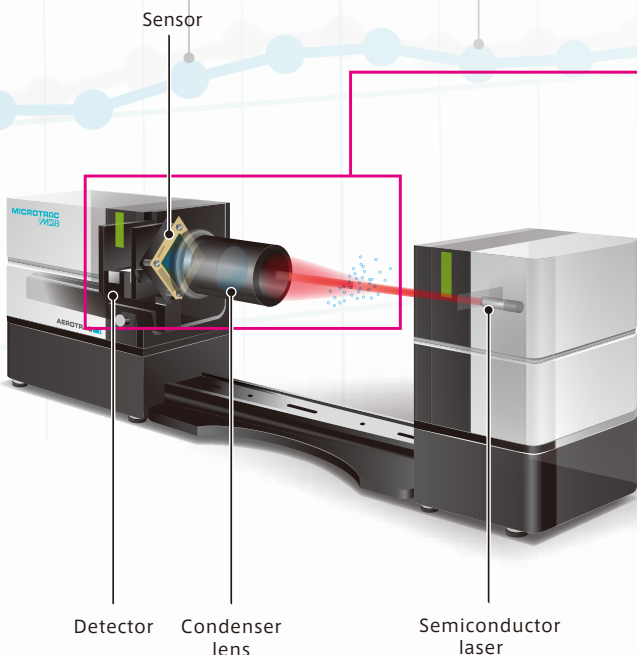
Analysis of temporal change of spray mist

Graphs of concentration of spray mist, particle size and its distribution are shown below.

The concentration of spray mist and particle size distribution are automatically and continuously measured in 0.2 msec intervals the instant the AEROTRAC II detector detects scattered light from the mist particles. The mist concentration and particle size are not stable from 0 to 2 msec, but become stable after that time.



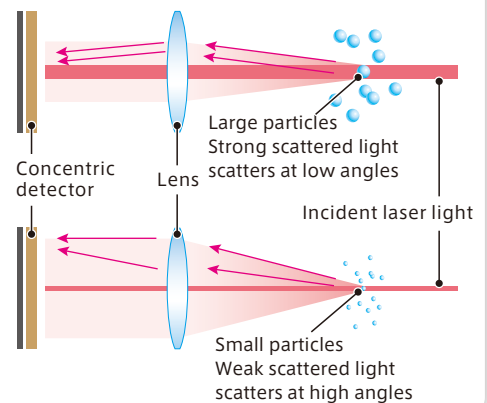
Basic block diagram



Measurement area

Laser diffraction method

The scattered light that is generated when laser light is irradiated on particles has a scatter pattern that corresponds to the particle size. The detector receives scattered light (mixed light) from particles of various sizes, and our unique algorithm is used to convert the result into particle size distribution.

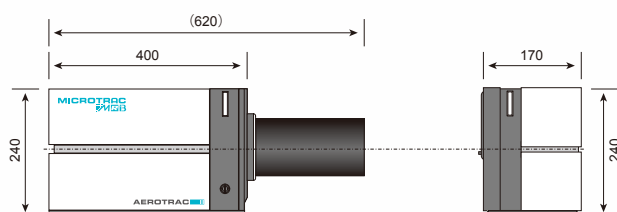


Specifications

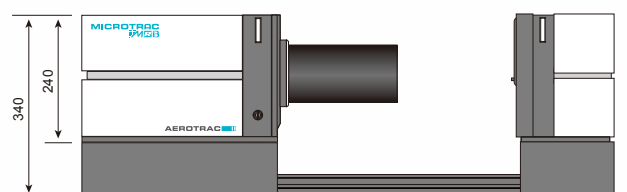
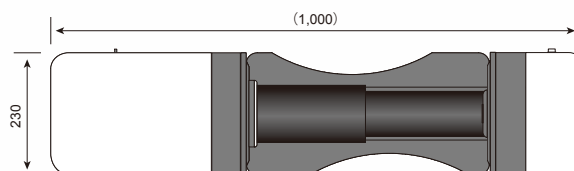
Model	AEROTRAC II
Measurement principle	Laser diffraction method
Measurement range	F100 lens: 0.5 to 350 μm F300 lens: 1.4 to 1000 μm F600 lens: 2.8 to 2000 μm
Light source	Semiconductor laser Wavelength: 635 nm Output: 3.5 mW Laser class: CLASS 3R
Detector	32-element ring detector (with automatic optical axis adjustment function)
Measurement interval	Spray measurement: 0.02 to 500 msec Continuous measurement: 1 to 600 sec
Number of measurements	Spray measurement: 1 to 100 times Continuous measurement: 1 to 9,999 times
Display/output content	Particle size distribution (frequency/cumulation), summary data (D50% particle size, SMD, mode diameter, etc.), density index
Batch cell	Material: Tempax glass (with coating) Capacity: 5 to 7 ml
Conditions of use	Ambient temperature: 10 to 35°C Ambient humidity: 20 to 80% R.H. (no condensation)
Power source	85 to 264 VAC, 47 to 63 Hz
Dimensions and weight	Light emission module: 170 (W) \times 230 (D) \times 240 (H) mm 5.5 kg Detection module: 595 (W) \times 230 (D) \times 240 (H) mm 11.5 kg (with F300 lens attached) For connected modules (option): 1000 (W) \times 230 (D) \times 340 (H) mm 27 kg
Data processing and control unit	Windows PC (including laptop PC)

Outline dimensions

Unit (mm)



Standard model



Integrated model (option)

※Specifications and appearance of the products listed are subject to change without notice.

※Products (goods and services) described in the catalog, depending on the destination and application, might be applicable to export regulations, etc. by the "Foreign Exchange and Foreign Trade Control Law".

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MicrotracBEL Corp.

8-2-52 Nanko-Higashi, Suminoe-ku, Osaka, 559-0031, Japan

TEL : +81-6-6655-0362

FAX : +81-6-4703-8901

<https://www.microtrac.com/>

E-mail : international@microtrac-bel.com

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