Specifications

General

Principle:
Laser Light Scattering.

Analysis:
Mie and Fraunhofer scattering including a patented multiple scattering analysis.

Data acquisition rate:
Rapid mode: 10kHz. Continuous mode: 1Hz.

Maximum Measurement Time:
Rapid mode: 30 seconds. Continuous mode: 60 minutes.

Measurement Triggering:
Internal: Based on transmission or light scattering levels. External: Based on TTL input or simple switch trigger.

External Device Synchronization:
Via 2 TTL trigger outputs.

Optics

Light source:
Max 4mW He-Ne Laser, 632.8nm.

Lens arrangement:
Fourier (parallel beam).

Lens Focal Length:
300mm and 750mm.

Measurement range:
150mm at 0.5 µm, extending to greater than 1m above 5 µm.

Detector

Arrangement:
36 element log-spaced array.

Angular range:
0.015 – 17 degrees.**

Alignment:
Automatic.

Sizing Performance

Particle size:

300mm lens: 0.1 – 900 µm (Dv50: 0.5 – 600 µm). 750mm lens: 2 – 2000 µm (Dv50: 5 – 1600 µm).

Accuracy:

Better than 1%.***

Repeatability:

Better than 1%.***

Reproducibility:

Better than 1%.***

Software

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Enables an operating mode that assists with ER/ES compliance.

System Compliance

Laser safety:

Class 3R, IEC60825-1:2007 and CFR Chapter 1: Sub-chapter J: Part 1040 (CDRH).

Regulatory testing:

CE / FCC compliant. Meets requirements of the European Low Voltage directive.

Weight and dimensions

Laboratory systems:

950mm optical bench: 950mmx550mmx610mm (36kg). 1400mm optical bench: 37kg 1400x550x610 (37kg).

Spray Facility Systems:

950mm optical bench: 950mmx550mmx650mm (36kg). 1400mm optical bench: 1400x550x650 (37kg).

System

Power:

100/240 v, 50/60 Hz.

Product storage temperature:

-20°C to +50°C.

Operating temperature (°C):

+15°C to +40°C.

Humidity:

80% maximum for temperatures up to 31°C, decreasing linearly to 50% at 40 °C. Non-condensing.

Ingress Protection (IP) rating:

IP65 when in normal use

Notes

*:

This defines the maximum allowable distance between the far edge of the spray plume and the Spraytec receiver lens.

**:

Lens dependent.

***:

Relates to the measurement of the Dv50 for NIST-traceable latex standards. Sample dependent.