

8303 and 8503 Handheld Airborne Particle Counters

0.1 CFM (2.83 LPM)

- Industry's highest concentration of 15,000,000 particles/ft³ @ 10% coincidence loss
- Ideal for use in research, industrial health and safety, indoor air quality, and cleanroom applications
- Up to 10 hours continuous operation on a fully charged battery
- Industry's first Sleep Mode and Power Conservation Mode with Intelligent Battery
- The most comprehensive internal self-diagnostics of any handheld particle counter
- Real-Time Meter detects particle contamination sources with visual and audible indication
- Internet of Things (IoT) communication allows for network or cloud-based data options



The Particles Plus® 8303 and 8503 Handheld Particle Counters measure 0.3 to 25.0 μm with a flow rate of 0.1 CFM (2.83 LPM).

Easy to configure, this instrument displays up to 3 user-selectable size channels as well as (optional) temperature and relative humidity. View data and generate ISO 14644-1, EU GMP Annex 1 or FS 209E reports. Export to Particles Plus® data-software. The 8303 also has a mass concentration mode that approximates density in $\mu\text{g}/\text{m}^3$.

All Particles Plus® counters meet ISO 21501-4 and JIS B9921. The 8303 and 8503 ensure compliance with an on-board pulse height analyzer.

Features and Benefits

- 8303 Measures 0.3 μm to 25.0 μm
- 8305 Measures 0.5 μm to 25.0 μm
- 0.1 CFM (2.83 LPM) flow rate
- Long life laser diode technology
- Measures up to 3 channels of simultaneous data
- Approximates mass concentration in $\mu\text{g}/\text{m}^3$ with density and refractive index corrections
- Integrated handle for one-handed operation
- Large easy-to-use icon driven color touch screen display
- Temperature and relative humidity probe included
- Stores up to 45,000 sample records, 1,000 sample locations and 50 recipes
- Annotation function allows user to save 32 character notations to a sample record
- Remote diagnostics allows for remote service investigation through the Internet
- Easy configuration and transferable from instrument to instrument
- Connect using Ethernet, USB or (optional) Wireless 802.11 b/g, RS 485 or RS232
- Displays user-definable reports for ISO 14644-1, EU GMP Annex 1 and FS 209E
- Internal audible alarm with comprehensive alarm management
- User-selectable channel sizes
- Complies with ISO 21501-4 and JIS B9921 standards
- Easy to clean and wipe down with minimal particle traps
- Seamless integration into a facility monitoring system
- Lightweight high-impact injection molded plastic enclosure
- 2 year limited warranty. Extended warranties available.

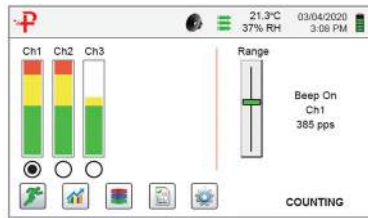
Specifications

| Model | 8303 | 8503 |
|------------------------|--|--|
| Size Range | 0.3 to 25 µm | 0.5 to 25 µm |
| Size Channels | Factory calibrated at 0.3, 0.5, 5.0 µm | Factory calibrated at 0.5, 1.0, 5.0 µm |
| Flow rates | 0.1 CFM (2.83 LPM) | |
| Concentration Limits | 15,000,000 particles/ft ³ @ 10% coincidence (per ISO 21501-4), 30,000,000 particles/ft ³ @ 10% coincidence (as tested and validated ¹) | |
| Battery Run Time | >10 hours continuous operation | |
| Light Source | Long life laser diode | |
| Counting Efficiency | 50% @ 0.3 µm; 100% for particles >0.45 µm per JIS | |
| Zero Count | <1 count / 60 minutes (<1 particles / 6 ft ³) | |
| Count Modes | Real-Time Meter and graph, cumulative/differential count/m ³ and count/ft ³ , and mass concentration (PM) | |
| Count Alarms | 1 to 9,999,999 counts | |
| Calibration | NIST traceable | |
| Display | 4.3" (10.9 cm) WQVGA (480×272) color touch screen | |
| Printer | (Optional) External thermal printer available | |
| Vacuum Source | Internal pump with automatic flow control | |
| Filtered Exhaust | Internal HEPA filter | |
| Number of Channels | 3 | |
| Custom Size Channels | Calibration for custom size channels available | |
| Audible Alarm | Adjustable built-in alarm | |
| Battery | Removable Li-ion (Recharge time: 4 hours within instrument, <2 hours with external battery charger) | |
| Reports | ISO 14644-1, EU GMP Annex 1, FS 209E | |
| Recipes | 50 user-configurable recipes | |
| Communication Modes | Ethernet and USB. (Optional) Wireless 802.11 b/g, RS485 or RS232 | |
| Environmental Sensor | Includes temperature 32° to 122°F (0° to 50°C) ±1°F (0.5°C) and relative humidity probe 15-90% ±2% | |
| Alarm | Alarms on counts for all particle sizes, sensor failure, environmental sensors and flow | |
| Standards | ISO 21501-4 and JIS B9921 | |
| Calibration | Recommended minimum once per year | |
| External Surface | High impact injection molded plastic | |
| Dimensions (L x W x H) | 5.12" x 4.25" x 12.26" (13.0 cm x 10.8 cm x 31.1 cm) includes handle and does not include probes | |
| Weight | 2.2 lb (1.0 kg) | |
| Accessories | Operating manual and IMS software on USB flash drive, isokinetic probe, temperature relative humidity sensor, purge filter, battery, data download software, USB cable, power supply and cable | |
| Optional Accessories | Printed manual, carrying case, spare battery, external battery charger, external printer and isokinetic probes, barbed fittings, IMS-RT monitoring system | |
| Buffer Memory | 45,000 sample records (rotating buffer) including particle count data, environmental data, locations, annotations, and times. Scrollable on screen or printout. | |
| Sample Locations | Up to 1,000 locations 20 characters long | |
| Sample Time | 1 second to 99 hours | |
| Power | 110 to 240 VAC 50/60 Hz universal in-line power supply | |
| Operating Conditions | 41° to 104°F (5° to 40°C) / 20% to 95% non-condensing | |
| Storage Conditions | 32° to 122°F (0° to 50°C) / Up to 98% non-condensing | |
| Warranty | 2 Years. Extended warranties available. | |

1- Validated by independent analysis see paper available at www.particlesplus.com/aac2022_paper



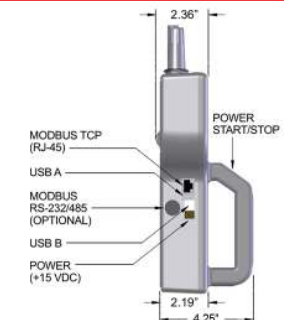
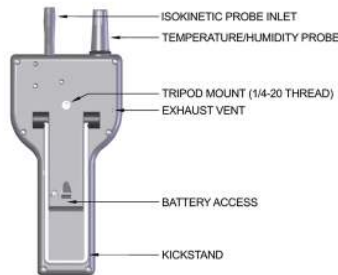
Audible and Visual Alarm Management



Real-Time Meter Pinpoints Particles Sources



Icon Driven Menus for Ease-of-Use



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