CONDUCTSCIENCE

Laser Dust Particle Counter CLJ-2803

SKU: CS-CLJ-2803 | PRODUCT SPEC SHEET

OVERVIEW

Precision laser particle counter for real-time airborne particle measurement across eight size channels (0.3-10 μm) with 28.3 L/min sampling rate, supporting ISO 5-8 cleanroom monitoring and environmental validation protocols.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Brand	ConductScience
Model	CLJ-2803
Sampling Volume	28.3L/min (1cfm/min)
Particle Size Channels	0.3, 0.5, 0.7, 1, 2, 3, 5, 10 um
Cleanliness Range	ISO5-ISO8
Power	150W
Voltage	AC220V/50-60Hz (AC110V optional)
Communication	USB, RS485, Ethernet
Laser Life	>30,000 hours
Material	Stainless Steel
Dimensions	220x350x260mm

KEY FEATURES

• **Eight-channel particle sizing (0.3-10 μm)** — Simultaneously monitors particles across critical size ranges for comprehensive air quality profiling and cleanroom classification assessment.
• **28.3 L/min (1 CFM) sampling flow rate** — Provides statistically significant particle counts in reasonable measurement times while meeting ISO sampling volume requirements.
• **ISO 5-8 cleanroom classification capability** — Supports validation and monitoring of controlled environments across pharmaceutical, biotechnology, and electronics manufacturing facilities.
• **Multiple communication interfaces (USB, RS485, Ethernet)** — Enables seamless integration with laboratory data management systems and facility monitoring networks for automated data collection.
• **>30,000-hour laser lifetime** — Minimizes maintenance requirements and ensures consistent optical performance throughout extended monitoring campaigns.
• **Stainless steel construction** — Provides chemical resistance and easy decontamination for use in pharmaceutical and sterile manufacturing environments.
• **Real-time particle measurement** — Enables immediate detection of contamination events and process deviations for rapid corrective action implementation.
• **150W power consumption** — Operates efficiently in continuous monitoring applications while maintaining stable laser output and optical performance.

APPLICATIONS

• **Pharmaceutical QC**: Continuous monitoring of cleanroom air quality during aseptic manufacturing processes to quantify particulate contamination levels across critical size ranges.
• **Environmental Monitoring**: Real-time assessment of airborne particle concentrations in controlled laboratory environments to maintain specified cleanliness classifications.
• **Industrial Hygiene**: Workplace air quality evaluation to measure particulate exposure levels and characterize aerosol size distributions in industrial facilities.
• **Microbiology**: Environmental monitoring of sterile processing areas to detect potential sources of particulate contamination that could compromise microbiological integrity.

COMPLIANCE & STANDARDS

ISO 14644-1 | ISO 14644-2 | USP <797>

BACKGROUND READING

[1] M.L. Laucks (2000). Aerosol Technology Properties, Behavior, and Measurement of Airborne Particles. *Journal of Aerosol Science*. DOI: 10.1016/s0021-8502(99)00571-6
[2] Michael Heim et al. (2008). Performance evaluation of three optical particle counters with an efficient "multimodal" calibration method. *Journal of Aerosol Science*. DOI: 10.1016/j.jaerosci.2008.07.006
[3] Phil Rosenberg et al. (2012). Particle sizing calibration with refractive index correction for light scattering optical particle counters and impacts upon PCASP and CDP data collected during the Fennec campaign. *Atmospheric measurement techniques*. DOI: 10.5194/amt-5-1147-2012