

DustCount 8899 Real-time Personal Wearable Particle Monitor

Overview

The DustCount 8899 is a real-time Personal Wearable Particle Monitor that provides the features required to support real-time personal aerosol monitoring in a single, lightweight, easy to use package.

Respirable particles such as crystalline silica are very dangerous in the lungs, and because they can cause respiratory health issues such as lung cancer, emphysema, and COPD, but they can also get into the blood stream and settle in other organs such as the brain and liver and cause health issues and cancer.

The product allows Hygienists to use real-time methods to determine if, when, and where a worker is being exposed to dangerous concentrations of respirable particles such as silica, metals, grains, welding dust, or other common manufacturing dusts in the air, and then use the collected samples of the same event to correlate this data using standard method gravimetric analysis and check the composition using XRD analysis for crystalline silica.

Hygienists have used the data gathered with the real-time capability, backed up with filter measurements using the standard method, to enhance discussions on dust issues with senior management, to graphically demonstrate dangerous areas to workers, to prove to regulators that containment systems are working effectively, and to save money by lowering ventilation costs through accurate air measurements.

Features and Benefits

- Monitor Silica and other dust accurately and effectively with a single wearable device.
 - Real-time readings and sample collection filter on the same device allows tight correlation of data.
 - Compact and lightweight with high quality construction makes this an excellent Personal Device.
 - Post event sample filter allows gravimetric analysis for standard method and XRD analysis for silica.
 - Wireless interface for management and control from PC or Smartphone makes it easy to use.
 - Automated pump management: eliminates ongoing manual calibration of pumps.
 - Air inlet extendable to near the breathing zone improves correlation to actual worker conditions.
 - Rechargeable batteries and long life pump ensures lower maintenance demands.
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Technical Specifications

DIMENSIONS

Size: 9 cm (width) x 13cm (length) x 4 cm depth ABS plastic housing

Mass: 0.5Kg

OPERATING PARAMETERS

Temperature: 5 C to 40° C

Humidity: < 80% up to 31° C decreasing linearly to 50% up to 40° C
Altitude: -2000m to +2000m (contact Nanozen for below sea level correction factors)
Pressure : 1.3 to .8 atmospheres

DISPLAY - 20 character, 4 line monochrome LCD.

Date, time, battery state (%), pump status, alarm condition.

Dust concentration: ug/m³ of previous second, avg concentration of previous test period.

USER CONTROL/STATUS

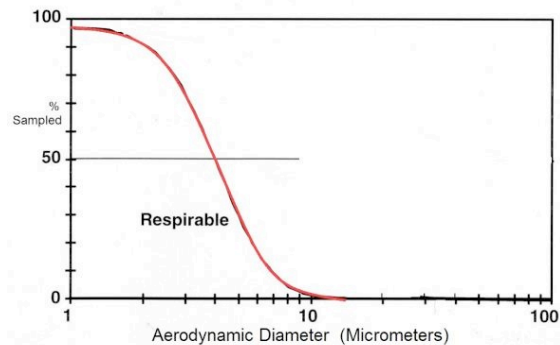
Management of: Data, Logging, Test period, Alarms.

Setting of: time/date, count factor, mass concentration factor, particle type.

MEASUREMENTS

Commences after pump calibration – 60 seconds

Particle Diameter: 0.5um to 10 um: NIOSH recommended transfer curve (shown below)



Post Sample Analysis: .removable, 25mm diameter filter (2um pore size recommended)
Particle Count rate: Maximum: 600,000 counts per min.
Maximum measurable mass concentration: Depends on dust size distribution and mass.
Detection Range: 1ug/m³ to 21.48 mg/m³.

DATA

Host Interface: Bluetooth, USB.

4 GB of NV Ram, 30 million logs.

Logging Interval: User settable between 5 seconds and 1 hour, default 60 seconds

Format: CSV comma delimited records with a CR LF at the end of each log, can be entered into spreadsheet.

POWER

Two-cell Lithium Ion battery pack (7.5V, 22WH - battery protection included)

Charger input voltage range 100 to 240VAC 50/60 Hz (Use only charger supplied)

Maximum 17W, range 6VDC to 8.5VDC, maximum 2.0 ADC,

10 hour continuous use on single battery charge, 2 hour recharge using charger provided.

Indicators: Battery charge in progress, charge complete

Ordering Information

See www.nanozen.com for sales information or to order online.

Email Nanozen at Info@nanozen.com or sales@nanozen.com

Contact Nanozen at 1-844-626-6936