LD-5R Digital Dust Indicator

LD-5R PM2.5 Digital Dust Indicator

◆LD-5R Digital Dust Indicator

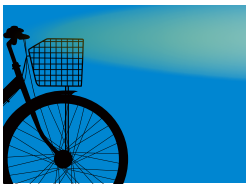
Compact handheld dust indicator
Performs real time measurement of suspended particle matter (SPM) in indoor spaces, public spaces and for industrial health purposes

◆LD-5R PM2.5 Digital Dust Indicator

LD-5R digital dust indicator equipped with a PM2.5 cyclone particle size selector
Portable and performs simplified measurement of PM2.5 concentrations on a real time basis

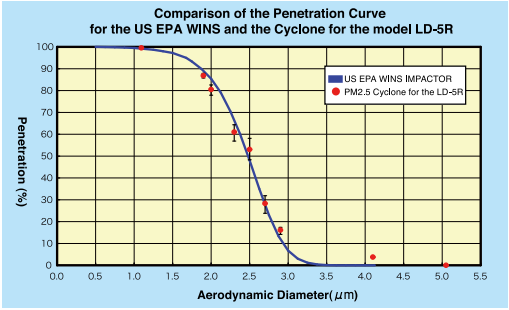
Principle

The LD-5R digital dust indicator is a relative concentration meter based on the light scattering method. It measures the dust level in less time than the filtrated collection method. Due to its characteristics, the relative concentration may be converted into mass concentration with the use of the coefficient of conversion into mass concentration (K factor) calculated on the basis of the filtrated collection method.
The LD-5R PM2.5 digital dust indicator is a combination of the LD-5R with a PM2.5 cyclone particle size selector to perform the simplified measurement of PM2.5 concentrations.



Clear air

The light beam is scattered by dust. (Ex: Automobile exhaust gas)



LD-5R digital dust indicator

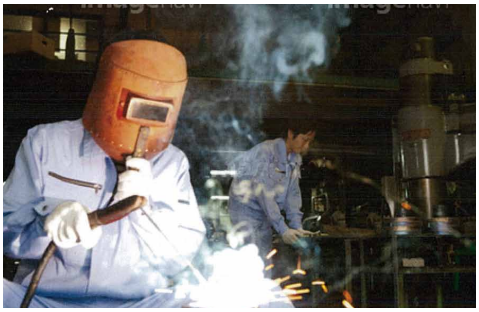
LD-5R PM2.5 digital dust indicator

Examples of application

1 Measurement of dust concentration in office buildings and indoor public places

Indoor air quality(Bulding)

2 Measurement of dust concentration in factories for occupational health purposes



Industrial Hygiene(Factory)

3 Measurement of dust concentration at construction sites

Construction site

4 Simplified monitoring for PM2.5

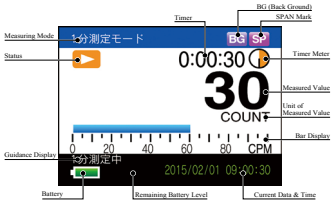
* For the LD-5R PM2.5 digital dust indicator only

PM2.5 monitoring

Features

1 Display

The products are equipped with color LCD displays that facilitate character recognition and the viewing of measurement results at dark measurement sites. In addition, they incorporate a LED indecator that indicate the operation status to allow operators to view the operation status from a location that is remote from the position where the indicator is placed.



Color LED display

LED indicator

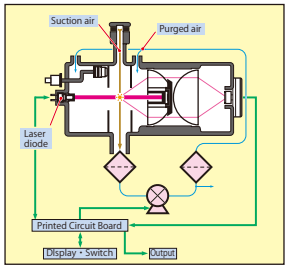
2 Real time monitoring

They adopt the light scattering method to perform real time dust monitoring.

Real time monitoring

3 High level of measurement precision

They adopt the purge air system to prevent dust in the sucked-in air from adhering to the optical system. After the end of measurement, it replaces the air inside the detector to maintain cleanliness and ensure outstanding durability.



Purge air system

4 Ease of maintenance

For maintenance, it is sufficient to replace the cylindrical filter and the circular filter.

The sucked-in air passes through the cylindrical filter paper at the bottom of the main unit. This protects the pump from the dust that is sucked in. A circular filter paper is mounted on the outlet of the suction pump. The air that passes through this filter paper is supplied to the detector as purged air.


Easy filter replacement

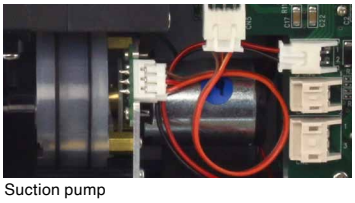
5 Compact size for measurement

The size is 31% smaller and the weight is 0.6 kg lower than the old model(LD-5).

Comact size(Comparison with LD-5)

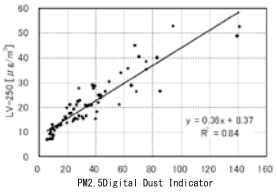
6 Pump suction system

The suction system employs a pump that is more powerful than a fan. That has paved the way for the stability of measurement and the attachment of a particle size selector.


Suction pump

7 Particle size selector

The right diagram portrays the correlations between the dust indicator with the PM2.5 particle size selector and the official method. The PM2.5 particle size selector employs the cyclone method to ensure very easy maintenance. As an option, a PM10 cyclone particle size selector is also available.



Correlations with mass concentration method


Measurement site

Specifications

LD-5R Digital Dust Indicator

Code No.		080000-73
Model		LD-5R
Measuring Principle		Light scattering method
Light Source		Laser diode
Measurement Sensitivity		1 CPM = 0.001 mg/m³ (for standard particles)
Measurement Range		0.001 to 10.000 mg/m³ (for standard particles)
Measurement Accuracy		±10% (for standard particles)
Suction Flow Rate		1.7 L/min.
Suction Equipment		Suction pump
Display		Color graphic LCD
Data on Display		• Cumulative count • Measurement time • Bar chart • Instantaneous value (CPM) • Trend chart • Current time • Mass-concentration conversion value • K factor • Remaining battery power • Error message
Function	Timer	Time set at 1, 2, 10, 60 or 240 minute(s), discretionary setting, manual
	Logging Measurement	Number of logging points: 60,000 Minimum logging cycle: 1 second Maximum measurement time: 9,999 hours and 59 minutes Log data: CPM value, measurement start time, data counts, logging cycle and etc.
	Span Check	Automatic sensitivity correction
	BG Reset	BG measurement, recording and reduction
Output	Analog	0-1 VDC, Output impedance 100Ω, Three range selection (1) 0 to 1,000 CPM: 0-1 V, 1,000 to 10,000 CPM: 0.1-1 V (2) 0 to 1,000 CPM: 0-1 V (3) 0 to 10,000 CPM: 0-1 V
	Pulse	Open collector Withstand voltage: 12 V maximum
	USB	Output of data recorded on the main unit
Communication: USB		Reading of data and main unit setting with the use of dedicated USB communication software
Power Source	Batteries	AA alkaline batteries: 6 pieces Operating time: Approx. 10 hours
	AC Adapter	100 to 240 V AC
Operating Environment		Temperature: 0 to 40 deg. C, Humidity: 5 to 90%
Dimensions		184 mm W × 68 mm D × 109.5 mm H
Weight		Approx. 1.1 kg (incl. batteries)
Standard Accessories		AC adapter, six AA batteries, shoulder belt , 1 Backup Filter & 1 TF98R Filter
Options		Soft case, communication cable with software, air suction adapter, and analog pulse cable

LD-5R PM2.5 Digital Dust Indicator

Code No.	080000-725
Model	LD-5R PM2.5
Standard Accessories	PM2.5 cyclone particle size selector, standard inlet, AC adapter, six AA batteries, shoulder belt and set of filters

Options and spare parts

Carry Bag for LD-5R
item code 080000-726

Data communication cable with soft ware for LD-5R
item code 080000-7203

High Efficiency Backup Filter for LD-5R
item code 080000-7202

TF98R Teflon-Coated Glass Fiber Filters,20mm dia.100pcs/set
item code 080130-098020

Suction adaptor for LD-5R
item code 080000-087

Analog Pulse cable for LD-5R
item code 080000-7204

AC Adpter Model UES36LCP
item code 080870-54

PM10 Cyclone for LD-5R
item code 090000-101

PM2.5 Cyclone for LD-5R
item code 080000-251

Specifications, and appearance described in this document are based on in ormation as of August 2020. They are subject to change without notice for improvement of the product.

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