



## testo DiSCmini

Handheld nanoparticle counter  
and size classifier

# Nanoparticle measurement.

## Anytime. Anywhere.

The Diffusion Size Classifier miniature (DiSCmini) is a handheld for the measurement of nanoparticle number, average particle diameter and lung-deposited surface area (LDSA) with a time resolution of up to 1 second (1 Hz).

### The solution.

With the testo DiSCmini, all these measurement procedures can be carried out quickly and easily. Thanks to its small size, low weight, and the patented measurement method, it is easily operated without the need for operating liquids or radioactive sources. The instrument is always ready for use.

DiSCmini is particularly efficient for personal exposure monitoring in particle-loaded work space with toxic air contaminants such as diesel soot, welding fumes, or industrial nanomaterial. DiSCmini detects particles ranging in size from 10 to about 700 nm, while the modal value should lie below 300 nm. The concentration range is from about 1,000 to over 1,000,000 particles per cubic centimeter. The accuracy of the measurement depends on the shape of the particle size distribution and number concentration, and is usually around 15-20% compared to a reference CPC.



testo DiSCmini operates without working fluids or radioactive sources and works in any orientation.

Suited for all applications where ease of use is important

- Personal exposure monitoring
- Workplace hazard identification

- Filtration efficiency verification
- Air pollution mapping with one mobile or multiple stationary instruments

Easy recording on «Secure Digital (SD) Memorycard»



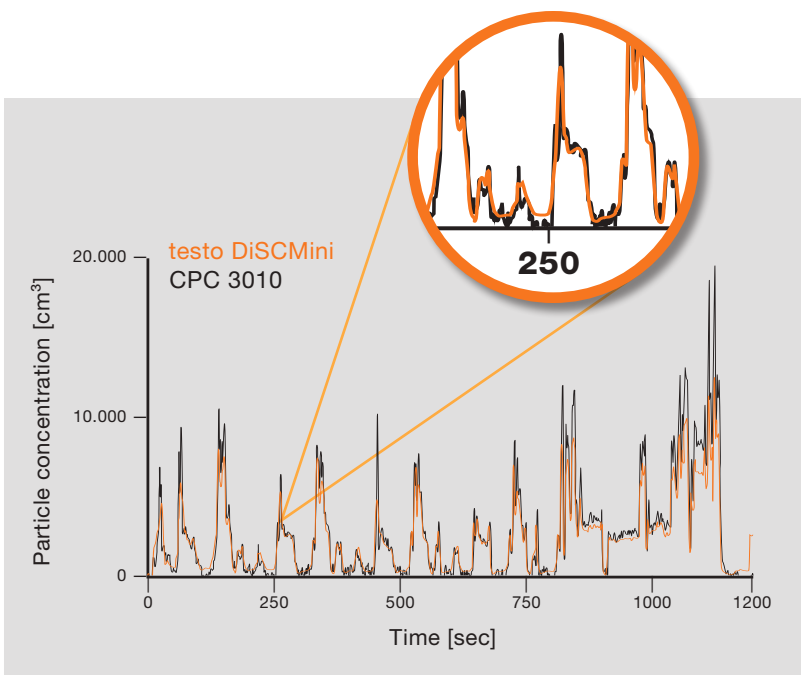
Raw data files can be imported directly into Excel, or analyzed with a cross-platform software tool.



With one or several testo DiSCmini, larger areas with many measurement locations can be easily monitored. The fast response and fine resolution allows the particle sources to be detected based on the measured data, even if there are no visible signs such as smoke or steam indicating the emission. The change in the number and mean particle size can be recorded over a longer period at one location using an AC power adapter. The indication of the surface area of the particles deposited in the lung (LDSA) immediately allows statements to be made on the biological burden and on occupational health. The measurement data are saved on an SD card as a CSV file, where they can be easily accessed and processed.

**The advantages at a glance.**

- Simultaneous measurement of particle size, mean particle size and LDSA, with a time resolution of 1 second
- Mobile operation, unaffected by vibrations and independent of the position of the instrument
- Easy identification of particle sources, easy set-up of measurement grids and long-term measurements
- Battery powered with operation of up to 8 hours
- Data can be recorded on a memory card, and transferred to a computer via USB cable



Compared to a CPC, testo DiSCmini is truly handheld, easier to use and it delivers not only the particle number concentration but also average particle diameter and lung-deposited surface area. testo DiSCmini measures size particles smaller than about half a micron in diameter.

Due to its small size and low weight, the testo DiSCmini can also be used easily for airborne measurements.

The internal charger can be turned off, and the DiSCmini will then operate as the world's smallest aerosol electrometer.

## Your partner in nanoparticle management

Our former specialist in nanoparticle management, Matter Aerosol, has been a member of the Testo family since 2010. In 2015 it has been fully integrated into the Testo family. With the full integration of the nanoparticle measurement technology business sector. Testo is pursuing customer oriented solutions by using the synergies in research & development, and proven capabilities of Testo in industrial instrumentation, service, and sales.

The extensive know how and recognized research & development of Matter Aerosol is now combined with more than 50 years' expertise from Testo AG, as a world leader in professional measurement technology. With this new arrangement, accurate solutions in the nanoparticle measurement technology sector are available now and will continue to be developed for the future.

### Ordering Information

Order No.	Description
133	<b>testo DiSCmini - Handheld Nanoparticle Counter</b> Incl. aluminium transport case, carrying bag, SD-card and SD-card reader, set for extension of sample inlet, battery charger Mascot (enables also long-term measurements), country specific power cord and calibration sheet
78051	Power cord 1.8 m, 2 x 18 AWG US/JP-plug
2026	Yearly Service Pack (including calibration) for DiSCmini
2036	Calibration DiSCmini
<b>Accessories and spare parts DiSCmini</b>	
91066	SD-Card
91078	SD-Card reader
6051	Battery charger Mascot (enables also long-term measurements)
91068	Carrying bag
91069	Aluminium transport case
<b>Set for sampling tube</b>	
91070	Impactor adapter
91071	Barbed fitting
91072	Special tube for nanoparticle sampling
<b>Spare 2-pin power cord</b>	
78051	Power cord 1.8 m, 2 x 18 AWG US/JP-plug

### Technical Specifications

Mean particle size	10 to 300 nm (modal diameter)
Particles counted	10 to 700 nm
Particle concentration	Detectable particle concentrations depend on particle size and averaging time. Typical values are given below. 20nm: 2E3 to 1E6 pt/ccm 100nm: 5E2 to 5E5 pt/ccm
Accuracy	±30% in size and number typical; ±5E2/ccm absolute in number
Flow rate	1,0 L/min ±0,1 L/min
Operating conditions:	
Pressure	800 to 1100 mbar abs ambient; Δp max. at inlet: ±20 mbar
Temperature	+10 to +30 °C; relative humidity <90 %RH
Time resolution	1 second
Dimensions	120 x 80 x 40 mm
Weight	0.7 kg
Power requirements	The battery charger is compatible with the any 100-120 volt or 200-240 volt 50/60 Hz AC wall outlet
Battery lifetime	8 hours typical; varies with ambient temperature. Charging time 2-4 hours depending on charger and status of battery.



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