

DURAG GROUP

**SOLUTIONS FOR
AEROSOL RESEARCH AND SCIENCE**



UNLOCKING THE INVISIBLE EVERY PARTICLE, EVERY SIZE, EVERY SOLUTION



- 1** AEROSOL GENERATION
- 2** AEROSOL NEUTRALIZATION
- 3** PORTABLE PARTICLE SIZE DISTRIBUTION MEASUREMENT
- 4** NANO PARTICLE SIZE DISTRIBUTION MEASUREMENT
- 5** AEROSOL CONDITIONING
- 6** AEROSOL COUNTING + SAMPLING
- 7** AEROSOL SIZE CLASSIFICATION

The product images in the graphic are not true to scale.



Scan to see all nanoparticle monitoring solutions



THE WORLD OF SIZING AND COUNTING



DUSTDECODER 11-D

PORTABLE AEROSOL SPECTROMETER

Precise and compact optical aerosol spectrometer for determining all dust mass fractions such as PM₁₀, PM_{2.5}, inhalable, respirable and more, as well as particle number size distributions from 0.253 ... 35.15 µm. An ideal solution for reliable real-time measurements in aerosol research and indoor air quality.



MINIWRAS 1371

PORTABLE WIDE-RANGE AEROSOL SPECTROMETER

The only instrument combining an optical aerosol spectrometer for micron-sized particles and a diffusion charger-based nanoparticle spectrometer in one portable housing. Outputs the particle size distribution from 10 nm to 35 µm and dust mass fractions in one data set. The ideal unit for mobile aerosol monitoring.



SMPS+C 5416

COUNTER-BASED NANO PARTICLE SIZE SPECTROMETER

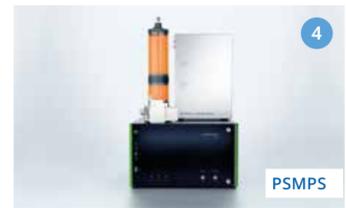
Scanning mobility particle sizer using a condensation particle counter for detection. Determines the particle size distribution of an aerosol starting from 3 nm with the S-DMA, up to 1,090 nm with the L-DMA. Can be combined with a GRIMM dust monitor to create a wide-range aerosol spectrometer.



SMPS+E 5710

ELECTROMETER-BASED NANO PARTICLE SIZE SPECTROMETER

Scanning mobility particle sizer using a Faraday cup electrometer for detection. A versatile instrument for fast measurements of the particle size distribution, especially for high concentration aerosol. Offers high variability of accessible size ranges and adjustable user settings.



PSMPS

SIZE MAGNIFIER-BASED NANO PARTICLE SIZE SPECTROMETER

Scanning mobility particle sizer including a particle size magnifier and using a condensation particle counter for detection. The only instrument that allows reliable high resolution particle size distribution measurements down to 1 nm. The ideal tool for studying new particle formation and growth processes.



CPC 5412

CONDENSATION PARTICLE COUNTER

Compact instrument for nanoparticle counting with integrated pump and saturator shutter (feature of all CPC and SMPS+C systems) for prompt transport without drying. Working fluid butanol, calibrated at a D50 = 4.0 nm or alternatively at a D50 = 10 nm for UFP monitoring as per EN 16976. Available as 19" variant.



FCE 5705

FARADAY CUP AEROSOL ELECTROMETER

The leading reference instrument for particle number concentration. An indispensable tool in any aerosol laboratory, especially for the calibration of aerosol equipment. Stand-alone operation with the all-new, redesigned FCE controller 5704 at flow rates of 0.3 ... 10 l/min.



U-DMA

VIENNA-TYPE DIFFERENTIAL MOBILITY ANALYZER

High resolution and low particle loss electrical mobility size classifier. GRIMM offers a flexible design of the Reischl Vienna-type DMA with three electrode lengths (S-M-L) to suit a variety of experimental needs. The U-DMA option allows easy conversion of the DMA classification length.

THE ACCESSORIES FOR SIZING AND COUNTING



AEROSOL NEUTRALIZERS

AEROSOL CHARGE CONDITIONERS

Generates bipolar ions to condition the aerosol to a well-defined charging state. Essential for the use of scanning mobility particle sizers such as SMPS+C. Various ionization sources such as Am-241, Ni-63 or soft X-ray are available to allow a wide range of applications and flexible types of use.



UAG 7811

UNIVERSAL AEROSOL GENERATOR

Produces aerosols by atomization from liquids, suspensions and solutions such as NaCl, DEHS and PSL. Completely stand-alone operation, no external compressed air supply required. Features adjustable nebulizer and dry dilution air flows to control the aerosol size distribution.



WOX 7860

TUNGSTEN OXIDE NANOPARTICLE GENERATOR

Evaporation-condensation type particle generator using sublimation of tungsten oxide to produce well-defined aerosols in the size range of 1.2 ... 20 nm. Features three adjustable air flows to tailor the aerosol size distribution in size and concentration to the experimental needs.



ESP 5561

ELECTROSTATIC NANOPARTICLE SAMPLER

Collects electrically charged particles from 0.8 ... 1,100 nm at sample flow rates of 0.3 ... 5.0 l/min by electrostatic deposition onto a variety of substrates for off-line analysis. Can be directly coupled to a GRIMM DMA to collect size-selected particles.



5483

SAMPLE AIRFLOW SPLITTER

Splits one aerosol flow into up to four streams to supply several measurement instruments with the same aerosol. Particularly useful in instrument calibration and comparison studies. Made from stainless steel with one 8 mm tube inlet and four 6 mm tube outlets.



7813 | 7814

SILICA GEL BASED DIFFUSION DRYERS

Reduces humidity of sample air flows up to 5 l/min, for example downstream of particle generators or to condition the aerosol sample flow for size spectrometers. Available in two lengths. Tube connection without tools with 8 mm quick-release fittings.



5540

SILICA GEL BASED DRYER AND ACTIVATED CARBON FILTER

Reduces humidity and purifies air flows up to 20 l/min. Particularly useful for conditioning the sheath air flow of a DMA to ensure reliable and reproducible flow conditions. Maintenance and tube connection without tools with 8 mm quick-release fittings.

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