# MonoGen 1000



The MonoGen 1000 generates monodisperse aerosols with a defined particle size for precise and reproducible applications. By combining aerosol generation, neutralization, and electrical classification, a narrow particle size fraction is selectively produced. Its compact design and flexible choice of precursor materials enable versatile use.

## Operation principle

## Precise Generation of Monodisperse Aerosols

A UGF first generates a polydisperse aerosol with a broad particle size distribution. The aerosol is then neutralized in the XRC to establish a defined charge distribution. Subsequently, particles are classified in the DEMC column according to their electrical mobility. By adjusting the voltage via the DEMC control unit, a specific particle size is selectively extracted. The result is a quasi-monodisperse aerosol with a narrow size distribution.

## Benefits

- Defined particle size through precise classification
- Narrow size distribution (quasi-monodisperse aerosol)
- High reproducibility and stability
- Flexible choice of aerosol (e.g., DEHS, DEHS-isopropanol, salt)
- Compact and portable design
- Neutralization without a radioactive source (XRC)
- Precise adjustment of particle size via voltage

## DATASHEET

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|---|---|
| Measurement range (number $C_N$) | 0–100,000 particles/cm³ (adjustable) |
| Measurement range (size) | 0.0025 – 1 $\mu$m |
| Volume flow | 0.2 – 3.5 l/min |
| Accuracy | ±5% of the average size for singly charged particles |
| Particle material | Salts (e.g., NaCl, KCl), liquid aerosols (e.g., DEHS) |
| Maximum counter pressure | 1 bar ± 200 mbar |
| Neutralizer | X-ray (XRC 049) |

## Applications

- Calibration of reference instruments
- Exposure of filters to particles of defined sizes
- Determination of the MPPS (Most Penetrating Particle Size)
- Development and quality assurance of filtration systems
- Aerosol and particle research under controlled conditions

Mehr Informationen:
https://www.palas.de/en/product/MonoGen1000