Measurement capabilities (Laboratory for Particles and Aerosols)*

METAS

Particle type	Diameter (nm)	Expanded measurement uncertainty of the diameter (%)	Number concentration (Particles/cm^3)	Expanded measurement uncertainty of the number concentration (%)	Examples of instruments to be calibrated
Polystyrene spheres	100 to 15000†	< 5	0.5 to 1000 (depending on particle size)	< 10	• Optical particle counters (OPC, OPSS) • Aerodynamic particle sizers (APS) • Condensation particle counters (CPC)
Polystyrene spheres	50 to 1000	< 5	$< 5 \times 10^4$	< 10	• Aerosol dilution units
Polystyrene spheres	80 - 200	< 5			• Differential mobility analyser (DMA)
Combustion particles (monodisperse aerosol)	10 - 200	5	1 000 bis 80 000 (depending on particle size)	< 5	• CPC • Diffusion chargers • Electrical low-pressure impactors (ELPI) • SMPS
Combustion particles (polydisperse aerosol)	20 to 200	5	$< 2 \times 10^6$	< 5	• CPC • Diffusion chargers • SMPS
Other substances (e.g. Tetracontane, emery oil, salt particles)	30 to 300	On enquiry	$< 10^5$	On enquiry	• CPC, OPC • Volatile particle remover • Laser/Flame Photometer
Synthetic ambient-like aerosols	$PM_{2.5}$ und PM_{10}		Mass concentration (µg/m^3) 15 - 300	**Expanded measurement uncertainty of the mass concentration (%)** <10	• PM monitors and low-cost sensors

* The list comprises only the standard services, but we are also happy to undertake customer-specific projects.
† Calibration point at 15 µm available upon request.