

Materials List for:

Measuring Sub-23 Nanometer Real Driving Particle Number Emissions Using the Portable DownToTen Sampling System

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Materials

Name	Company	Catalog Number	Comments
2x Condensation Particle Counter 4 nm	TSI	3775	Particle counter with a cut point of 4 nm
5x Mass Flow Controllers (MFC)	Vögtlin		Mass flow controllers for controlling the miniCast gas flows
AVL M.O.V.E. EFM Exhaust Flow Meter	AVL		Device for the measurement of the exhaust flow rate of vehicles
Catalytic Stripper	Custom made		Device for the removal of volatile compounds in an aerosol by oxidation
Compressed Air			Oxidation and dilution air supply for miniCast
Condensation Particle Counter 10 nm	AVL		Particle counter with a cut point of 10 nm
Condensation Particle Counter 23 nm	TSI	3790A	Particle counter with a cut point of 23 nm
Differential Mobility Analyzer	TSI	3085	Part of the electrostatic classifier where the particle are separated by mobility.
Dilution Bridge	Custom made		Needle valve in parallel to HEPA filters. Used to adjust particle concentrations for calibration purposes
DownToTen Sampling System	Custom made		Custom made sampling system for the assessment of automotive sub-23 nm particle emissions
Electrostatic Classifier	TSI	3082	Device for the classification of aerosol particles by electrical mobility diameter
Hand held Mass Flow Meter (MFM)	Vögtlin		Device for measuring the inlet flow of measurement instruments
miniCast Soot Generator	Jing Ltd		Combustion aerosol standard, soot generator
Mobile Battery LPS 1500	Clayton Power		Battery for power supply of the DTT measurement system
Nitrogen Gas Bottle			Nitrogen for Mixing gas and quench gas supply of miniCast
Propane Gas Bottle			Fuel for miniCast

Soft X-Ray Neutralizer	TSI	3088	Device for the establishment of the equilibrium charge distribution of aerosol particles
Synthetic Air Bottle 10 L			Gas Bottle for the dilution air supply