Dekati Impactor Line

consists of three different impactor types. SDI (Small Deposit Area Impactor) is designed for specific PIXE–analysis while DGI (Dekati Gravimetric Impactor) is applied for collecting a large quantity of particles for chemical analyses or to replace the standard filter holders in automotive measurements. The DLPI and PM10 impactor have the same design as the ELPI impactor offering excellent calibration data and user-friendly operation.

Dekati DLPI
Low Pressure Impactor

is a 13-stage impactor that operates in the size range of 30 nm – 10 μm. With a back up filter, particles below 30 nm are also collected. In the DLPI, particles are collected on 25 mm filters that can be analyzed gravimetrically or chemically.

Dekati PM10 Impactor

has the same design as the DLPI impactor but with fewer stages enabling measurement of PM10, PM2.5 and PM1 concentrations simultaneously. DLPI and PM10 impactors are available with flow rates of 10 and 30 lpm.

SDI

is a low-pressure impactor which separates particles into 12 size fractions from 45 nm up to 8.5 μm. The particle deposit area in SDI is 8 mm in diameter and sample flow rate 11 lpm.

DGI

is a cascade impactor with cutpoints of 2.5, 1.0, 0.5 and 0.2 μm and a back-up filter. Particles are collected on 47 mm substrates allowing an easy and reliable size distribution and total mass concentration measurement. A high flow rate of 70 lpm is used to collect more particles on the impactor stage thus enabling subsequent analysis of the particles. DGI applications lie mostly in engine exhaust measurements.

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Dekati Ltd. is specialized in the design and manufacture of innovative fine particle measuring and sampling devices. Since its founding in 1994, Dekati has become the technological market leader in producing fine particle measurement instrumentation for various applications and hundreds of customers.

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DEKATI
Product Line
Excellence in Particle Measurements

ELPI
Outdoor Air ELPI
DMM
ETaPS
Dekati Impactor Line

Dekati Thermodenuder
Dekati Diluter
FPS-4000
Dekati Axial Diluter
Dekati Engine Exhaust Diluter DEED

DEKATI
Excellence in Particle Measurements

ELPI Electrical Low Pressure Impactor

enables real time particle size distribution and concentration measurement in the size range from 7 nm up to 10 µm. ELPI is intended for any application where a wide size range coverage and fast time response are required. Such applications include combustion aerosol studies, diesel PM emission measurements, indoor and outdoor air quality monitoring, pharmaceutical measurements and general aerosol research. Since ELPI is a collecting device, subsequent chemical or gravimetric analysis of the collected, size classified particles is possible.

The ELPI unit is controlled with user-friendly ELPIVI measurement software which enables monitoring of total concentration and particle size distribution in several different modes. These modes include parallel real time size distribution and total concentration monitoring even from several units at the same time.

Outdoor Air ELPI

is a modified version of the standard ELPI, designed for prolonged independent operation in either remote or urban air measurement stations. Automated operation, calibration and data acquisition result in low operation costs, yet the instrument is still fully compatible with a standard ELPI system. The Outdoor Air ELPI is equipped with a temperature and humidity sensor, and its features include automatic recovery from power failures and optional unit control with ELPIVI software.

DMM-230

Dekati Mass Monitor is a real time instrument for automotive particulate mass emission measurements, designed specially to meet the needs of the automotive industry. It has a sensitivity of < 1µg/m^3, a time resolution of 1 s and a particle size range from 0.03 up to 1.5 microns. Due to its high sensitivity and large dynamic range, the DMM-230 can measure PM concentrations both upstream and downstream of diesel particulate filters for the determination of DPF efficiency.

DMM provides second-by-second information not only on particle total mass but also on the median diameter of the particles. In addition, mass measurement provides information that is comparable with existing data and with emission regulations. The design criteria for the instrument has been divided into three major issues: usability, reliability and integration to test cell information and data logging systems.

ETaPS Electrical Tailpipe sensor

is an in-situ flow-through particulate matter (PM) sensor for diesel and gasoline engine PM measurement and monitoring applications. The ETaPS sensor is capable of detecting the amount of PM emitted by a diesel or gasoline engine under both a steady state and transient conditions. Applications for ETaPS include development and quality control of engine and exhaust aftertreatment devices as well as in use testing.

Dekati Thermodenuder

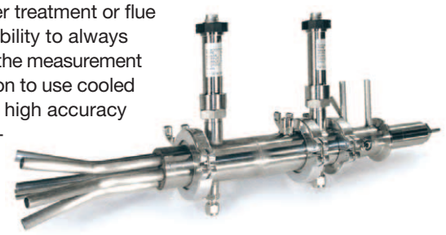
is an easy-to-use and simple tool for removing volatile and semi-volatile compounds from automotive exhaust. Removal of volatile compounds is an effective way to increase repeatability of both mass and number measurements by eliminating measurement artifacts. The Dekati Thermodenuder operates by heating the aerosol sample up to 250 °C and thus vaporising all volatile compounds. After the heater, the sample is led to a cooled adsorber section which contains active carbon. The active carbon adsorbs the volatiles and the sample is cooled to room temperature.

Dekati Diluter

is a simple constant dilution ratio diluter which suits applications from laboratory dilution to automotive exhaust conditioning. The operating principle is based on ejection dilution which eliminates the need for complex sampling pumps and flow controls. Each Dekati Diluter is individually calibrated at Dekati to ensure high repeatability and comparability between Diluter units.

Fine Particle Sampler FPS-4000

is the most comprehensive dilution and sample conditioning system commercially available in the world. Applications range from automotive exhaust and combustion flue gas measurements to laboratory and nucleation studies. The FPS-4000 has the capability of changing the dilution ratio and dilution temperature, and it enables sampling from high or low temperatures and pressures. This makes it suitable for sampling from pre- and post after treatment or flue gas cleaning devices, with the ability to always produce a high quality sample to the measurement instruments. In addition, the option to use cooled dilution makes it possible to run high accuracy nucleation studies with the FPS-4000.



The operation principle of the FPS- 4000 is based on combining perforated tube dilution with ejector dilution, where the perforated tube dilution can be operated heated or cooled. Both dilution stages have an adjustable dilution ratio, and the dilution ratio of the whole system is calculated in real-time and automatically corrected for temperature and pressure effects. In addition, all measured temperatures, pressures and calculated dilution ratios and sample flows are saved to a data file for easy access after the measurements.

Dekati Engine Exhaust Diluter DEED

is an all new PMP-conform engine exhaust conditioning system. In contrast to sample conditioning systems in general, DEED is a simple, easy to use system that guarantees precise and repeatable results every time. The design criteria for the DEED were utmost simplicity, ease of use and reliability. The user interface only has two operation switches: high/low dilution ratio and heating on/off. The pre-set dilution ratios remain always constant, thus the measurement reproducibility is high. Furthermore, retention of particles inside DEED is minimal, thus leading to long maintenance intervals and minimum instrument downtime.

DEED fulfils all requirements and recommendations of the upcoming exhaust fine particle measurement legislation (PMP). The instrument can be controlled with AK-protocol and the entire system is contained in a single rack-mountable cabinet.

DAD-100 Dekati Axial Diluter

is an economical and simple dilution unit for any application where a reduction in particle concentration is needed. The consumption of the dilution medium is very low so the diluter can easily be applied to on-board studies. The operation principle is based on introducing the dilution air tangentially around the sample to be diluted. This method of dilution is adjusted by controlling the diluted sample output and the input of the dilution medium which can be accurately determined when using the DAD-100 with Dekati products.

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Excellence in Particle Measurements