

Dekati®

Low Pressure Impactor DLPI+

- ▶ Particle size distribution measurement
- ▶ Wide particle size range
- ▶ Complete sampling setups also for high temperature applications



Excellence in Particle Measurements

Dekati® Low Pressure Impactor DLPI+

The DLPI+ (Dekati® Low Pressure Impactor) is a 14-stage cascade impactor that is used to determine airborne particle mass size distribution. The DLPI+ classifies and collects particles into 14 size fractions in the range of 16 nm - 10 µm. In each size fraction, the particles are collected on 25 mm collection substrates that are weighed before and after the measurement to obtain gravimetric size distribution of the particles. A chemical analysis of the size classified particles can also be performed. The DLPI+ impactor can be used in various particle measurement applications and can also be heated up to 180 °C for direct sampling of high temperature aerosols.



Applications

- Combustion process studies
- Air quality measurements
- Occupational health and safety studies
- Engine exhaust measurements
- Blow-by gas emission measurements
- Nanoparticle measurements

Accessories

- Spare set of impactor collection plates
- High temperature kit for heating the impactor up to 180 °C
- Vacuum pumps
- Aluminium and polycarbonate collection substrates Ø25 mm
- Dekati® Collection Substrate Spray for substrate greasing
- Sampling lines for emission measurements
- Sampling inlets for air quality measurement

► **Dekati Ltd.** is a world leader in designing and manufacturing innovative fine particle measurement solutions. We have over 25 years of experience in providing measurement instruments and complete measurement solutions to a wide variety of environments and sample conditions. All Dekati® Products are developed and manufactured in Finland and are available with up to five-year warranty.

Features

- Particle size distribution in 14 size fractions 16 nm - 10 µm
- 10 lpm sample flow rate
- Particle collection area Ø25 mm
- Integrated impactor low pressure (40 mbar) measurement and adjustment, no flow control needed
- Well characterized impactor with low inter-stage particle losses*
- Can be upgraded into a complete ELPI®+ (Electrical Low Pressure Impactor) system for real-time data
- Provided with a data processing spread sheet
- Stainless steel stages for operation even in harsh environments
- Standard DLPI+ for up to 50 °C measurements
- Sampling from up to 180 °C with the high temperature upgrade kit
- Each unit manufactured and calibrated in Finland
- Complete measurement solutions available for different applications

* Järvinen, A., Aitoma, M., Rostedt, A., Keskinen, J. & Yli-Ojanperä, J. 2014. Calibration of the new electrical low pressure impactor (ELPI+). 2014. J. Aerosol Sci. 69, pp. 150-159.

Impactor cut points

Stage	D50% [µm]
15	10
14	5.3
13	3.6
12	2.5
11	1.6
10	0.94
9	0.60
8	0.38
7	0.25
6	0.15
5	0.094
4	0.054
3	0.030
2	0.016

Each DLPI+ unit is individually calibrated before delivery; the calibration includes detailed determination of the exact sample flow rate and D50% values. The values presented in this table are nominal values at 20 °C. Effect of temperature on the impactor calibration values can be calculated with the provided data processing spread sheet.

For more information, please contact: sales@dekati.fi

