

DEKATI DLPI Low Pressure Impactor

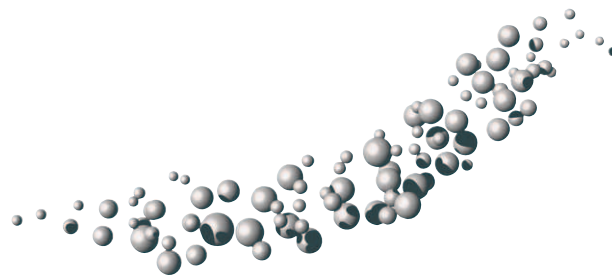
Particle size distribution measurement
Wide size range
Complete sampling setups



Excellence in Particle Measurements

DEKATI DLPI

Low Pressure Impactor



DLPI (Dekati Low Pressure Impactor) is a cascade low pressure impactor which classifies airborne particles into 13 size fractions. The size classification is made from 30 nm up to 10 µm with evenly distributed impactor stages. An additional back-up filter can be used to collect particles smaller than 30 nm. The impactor is available with a 10 and 30 l/min sample flow rate.

The operating principle of the DLPI is based on inertial size classification and gravimetric or chemical analysis of the collected particles. The DLPI features low inter-stage wall-losses, a small particle collection area and robust yet easy-to-use operation. The rigid stainless steel construction of the DLPI makes it suitable for a wide variety of applications including power plant and vehicle emission measurements, engine blow-by measurements, air quality studies and pharmaceutical aerosol device testing. The DLPI impactor has the same design as the impactor used in the real-time particle size distribution measurement device ELPI™ (Electrical Low Pressure Impactor) thus enabling an easy upgrade from a DLPI to an ELPI.

Each DLPI impactor is individually calibrated before delivery; the calibration includes detailed determination of the exact sample flow rate and D50% values. The nominal values are presented in the table below.



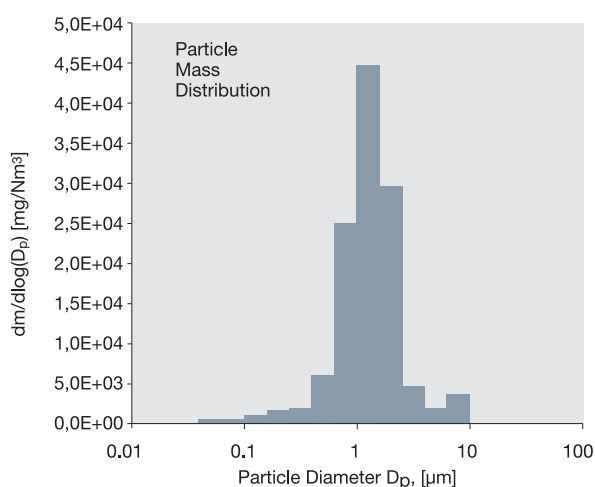
Nominal values

Stage	D50% [µm]
13	10
12	6.8
11	4.4
10	2.5
9	1.6
8	1.0
7	0.65
6	0.40
5	0.26
4	0.17
3	0.108
2	0.06
1	0.030
Filter	~ 0

Specifications

Particle collection area	Ø 25 mm
Sample flow rate	10 or 30 l/min
Impactor low pressure	100 mbar
Max temperature	200 °C
Weight	5 kg
Material	Stainless steel

Example data from a DLPI measurement



Accessories

A spare set of impactor collection plates including storage case for easy impactor reloading.



Other accessories include:

- Impactor heating jacket for heating the impactor up to 200 °C
- Pressure indicator for monitoring impactor low pressure
- Vacuum pumps for different impactor setups
- Aluminium foils for impactor stages (Ø 25 mm)
- Polycarbonate foils for impactor stages (Ø 25 mm)
- Sampling inlets for air quality measurements
- Sampling lines for combustion measurements

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



Dekati Ltd.
 Osuusmyllynkatu 13
 FIN-33700 Tampere
 Finland
 Tel. int. +358 3 3578 100
 Fax int. +358 3 3578 140
 E-mail sales@dekati.fi
www.dekati.fi

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