Dekati®

Low Pressure Impactor DLPI+

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

www.dekati.fi

Excellence in Particle Measurements
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.

**Features**
- Particle size distribution in 14 size fractions 16 nm - 10 μm
- 10 lpm sample flow rate
- Particle collection area 0.25 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 spreadsheet
- 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


**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

**Impactor cut points**

<table>
<thead>
<tr>
<th>Stage</th>
<th>D50% [μm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>14</td>
<td>5.3</td>
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<tr>
<td>13</td>
<td>3.6</td>
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<tr>
<td>12</td>
<td>2.5</td>
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<td>11</td>
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<tr>
<td>10</td>
<td>0.94</td>
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<tr>
<td>9</td>
<td>0.60</td>
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<td>8</td>
<td>0.38</td>
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<td>7</td>
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<tr>
<td>6</td>
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<tr>
<td>5</td>
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<tr>
<td>3</td>
<td>0.030</td>
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<tr>
<td>2</td>
<td>0.016</td>
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</tbody>
</table>

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 spreadsheet.

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

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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.

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