The Large Droplet Generator LDG 244 was developed for special applications, where high oil mass flow is needed. He is also an essential element for the test rig SPT 140.

The LDG 244 is especially suitable for simulating gushes of oil and wall film respectively. By means of a heated single medium nozzle oil droplets with an extremely large diameter and in a substantially higher throughput mass flow compared with the performance parameters of the Atomizer ATM 243 can be generated. Different oils can be used. An additional control unit enables a standalone operation of the generator independently of the Oil Mist Separator Test System SPT 140.

**Special Advantages**
- Generates polydisperse test aerosol with a mean particle size of 50 - 100 μm
- Very high particle mass flow within the range of 50 - 2000 g/h
- Very high aerosol particle concentration
- Adjustable and regulated aerosol temperature

**Applications**
- Testing of oil mist separators
- Capacity tests of filters
- Simulation of wall film and oil gush effects
- Research & Development

**Operating Principle**
The oil is nebulized by a pulsed driven single-substance nozzle with baffle. The pressure upstream of the nozzle is adjusted by the pressure in the oil reservoir. From there the oil comes through the hose to the dosing unit, which contains heater, valve and spray nozzle.

![Functional schematic](image-url)
**Details**

The throughput oil mass flow is adjusted by impulse operation of the single-substance nozzle. The nozzle is opened and closed periodically in short intervals, the lengths of which varying according to the desired mass flow. For further transport of the aerosol, an additional airflow at the nozzle outlet is required. The droplet size distribution can be effected by pressure and temperature of the engine oil upstream the spray nozzle and by the dosing range of the valve.

**Technical Data**

- **Particle material**: Engine oil, e.g. 15W40, 0W30
- **Mass flow**: 50 ... 2000 g/h
- **Particle size**: \( d_{50} = 50 \ldots 100 \ \mu m \)
- **Temperature range**: 15 °C ... 120 °C
- **Nozzle temperature**: 90°C ... 120 °C
- **Nozzle switching frequency**: 2 Hz ... 75 Hz
- **Nozzle pulse length**: 5 ms ... 20 ms
- **Filling amount**: 0.5 l ... 2 l
- **Max. inlet pressure**: 800 kPa (8 bar)
- **Max. operating pressure**: 600 kPa (6 bar)
- **Power supply**: 100 ... 240 V AC (only required for optional control unit)
- **Dimensions (W x D x H)**:
  - Oil reservoir: 260 x 210 x 550 mm
  - Dosing unit: 210 x 210 (280) x 110 mm
- **Weight**: 9.3 kg

QMS certified to DIN EN ISO 9001.

For more information please visit our website at www.topas-gmbh.de

Specifications are subject to change without notice.

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**Specifications**

<table>
<thead>
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<th>Particle size [μm]</th>
<th>Volume density [%]</th>
<th>Cumulative [%]</th>
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<tr>
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</tr>
</tbody>
</table>

Particle size distribution of an aerosol generated by the LDG 244 generator (engine oil 0W30)