

# BEMS 4000



In Europe, motor vehicles (light-duty vehicles) will, in the future, be tested for braking emissions in the WLTP cycle. The basis for this is the directive ECE/TRANS/WP.29/GRPE, in short, UN GTR. The particle sizes in brake emissions are in the nanoparticle range up to about  $10 \mu\text{m}$  in concentrations of up to  $2 \times 10^6 \text{ particles/cm}^3$ .

Therefore, emissions in this size range are tested for TPN (Total Particle Number, solid and volatile) and SPN (Solid Particle Number, solid particles only, in particles/cm<sup>3</sup>). The PM<sub>2.5</sub> and PM<sub>10</sub> values (in  $\mu\text{g}/\text{m}^3$ ) are also considered.

The test of PM<sub>2.5</sub> and PM<sub>10</sub> (in  $\mu\text{g}/\text{m}^3$ ) is done purely gravimetric after the entire test is finished, meaning there is one emission value for PM<sub>2.5</sub> and one for PM<sub>10</sub> for the overall test cycle.

Continuous and time-resolved monitoring of PM<sub>1</sub>, PM<sub>2.5</sub>, and PM<sub>10</sub> and also particle size distribution can be realized by scattered light ...

## BENEFITS

- Easy integration into the BEMS System
- Time-resolved measurement of PM<sub>2.5</sub> and PM<sub>10</sub>
- Additional measurement of particle size distribution and PM<sub>1</sub>
- Robust, compact design

## APPLICATIONS

- Time-resolved measurement of brake emissions

## DATASHEET

Measuring principle	Optical light-scattering
Measurement range (number $C_N$ )	$< 2 \cdot 10^4$ particles/cm <sup>3</sup>
Measurement range (size)	0.18–18 $\mu\text{m}$
Volume flow	9.5 l/min
Size channels	Max. 64 (32/decade)
Power consumption	Approx. 200 W