Fast and reliable particle emission tester

Low maintenance

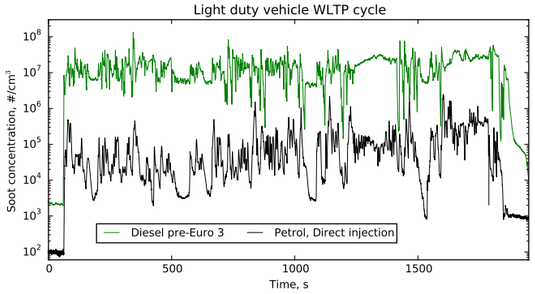
PM, PN, LDSA and particle size

Pegasor Particle Counter PPC

FAST AND RELIABLE PARTICLE EMISSION TESTER

Fast and accurate particle emission tester

Pegasor Particle Counter PPC is a portable particle number counter for measuring ultrafine particle concentration in engine exhaust and other combustion emission sources. The PPC was originally designed for nPTI applications, and it fulfils all the requirements set in the European nPTI regulation for measuring particle number concentration in vehicle emissions. The newly updated PPC system includes additional features that make it well suited for any ultrafine particle emissions monitoring application. Improved features include PN, PM, LDSA, and particle size measurement at 10 Hz, and several data communication options. The complete system offers easy operation, low maintenance, and reliable results, even in demanding environments.



Pegasor G2 sensor used in GDI engine and pre-Euro3 diesel engine measurements demostrates the wide dynamic range and capability of the measurement technology.

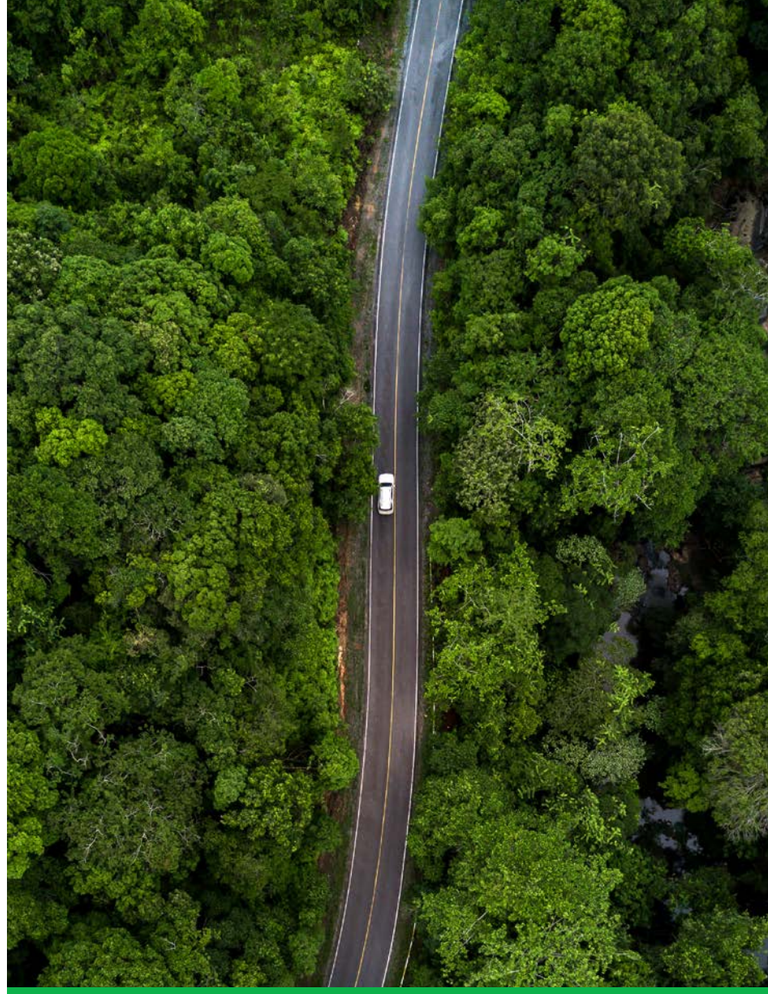
PPC Operation

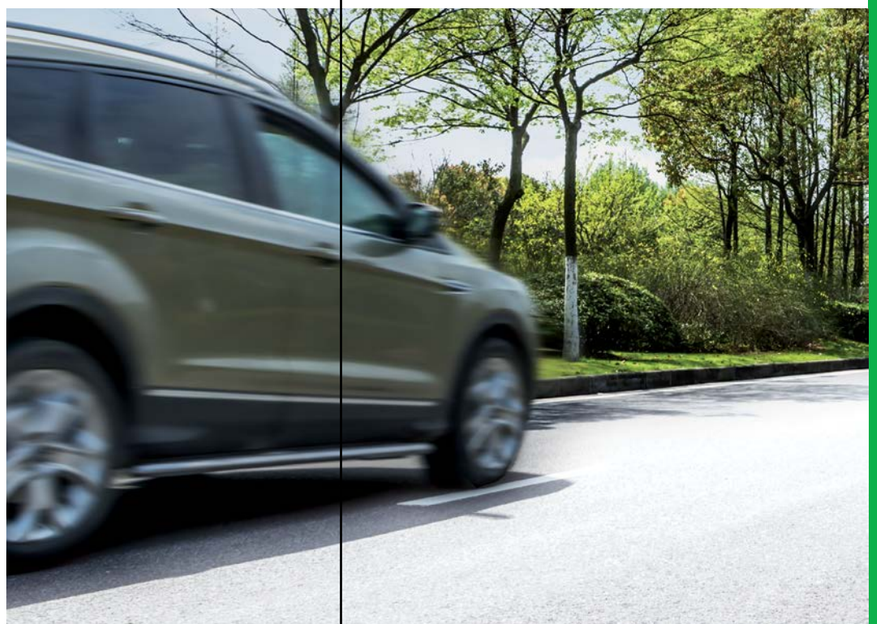
The PPC system uses the patented Pegasor PPS-G2 sensor at the core of the instrument for particle detection. This sensor uses the escaping current technique to detect particles. In this technique, the particles are first charged and then detected electrically. The unique design of the PPS-G2 sensor ensures continuous sample flow, and it keeps critical parts of the sensor clean, eliminating the need for frequent maintenance even during long-term measurements and high-concentration environments.

The PPS-G2 sensor uses a corona-ionized flow to charge the particles drawn into the system. This charge is measured by a sensitive electrometer when the particles exit the sensor to determine the number of particles and their lung-deposited surface area (LDSA). The PPC software additionally calculates the mass and median size of the particles, offering comprehensive information in a single instrument.

To ensure reliable operation in hot exhaust gas measurements, the PPS-G2 sensor is heated to 200°C and includes an integrated volatile particle remover (VPR) as required by regulations. This eliminates the need for external dilution systems and prevents condensation and other unwanted changes in the sample. The electronic components are also insulated from the heated section for reliable performance.

Pegasor PPC uses the patented PPS-G2 sensor for particle detection. Its unique flow-through design allows accurate, real-time and long-term measurements with very low maintenance.





PPC Features

- PN, LDSA, PM concentration measurement of ultrafine particles
- Median particle size measurement
- Non-collective measurement method ensures very long maintenance intervals
- No consumables, no operating liquids
- Several data communication options
- Extensive self-diagnostic system to increase reliability
- Insensitive to vibrations
- Wide concentration range
- Sensor module heated up to 200° C to prevent condensation
- Heated sampling line included for sample transport
- Integrated VPR for volatile particle removal
- Improved sensitivity since no dilution is needed
- Integrated pump included for sensor operation, no external pumps or air compressors needed

Measurement applications

The PPC offers a comprehensive and user-friendly solution for measuring ultrafine particles in various applications. Typical applications:

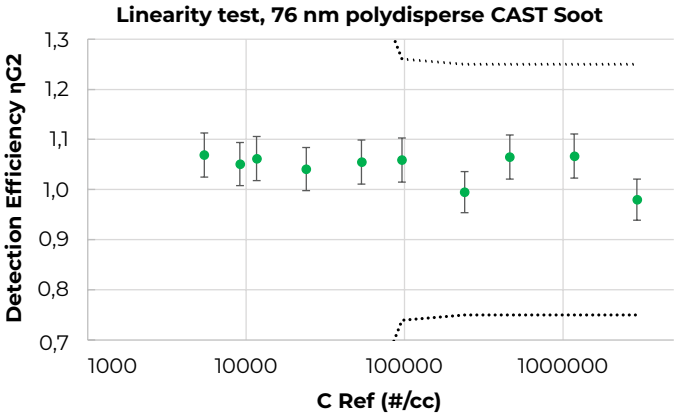
- Regulatory nPTI measurements
- DPF operation verification
- RDE (Real Driving Emissions) and PEMS measurements
- Aircraft emission monitoring
- Marine engine emission measurements

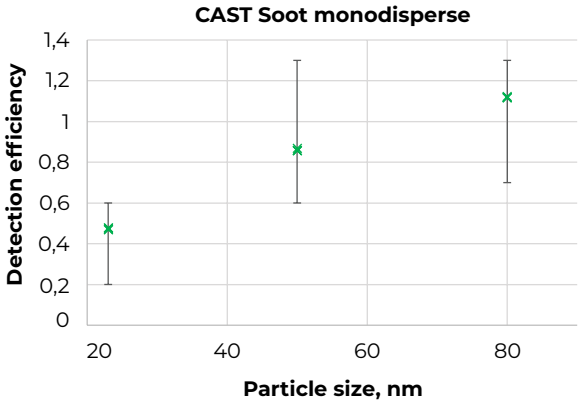
Specifications

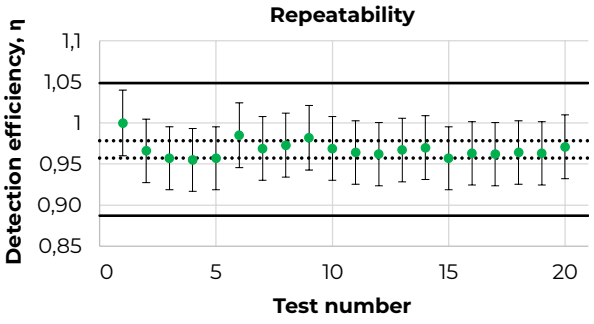
Range	30–100,000,000 #/cm³
Sensitivity	30–1,500 #/cm³ depending on sampling rate and averaging
Particle size	10–300 nm for PM and Dp. 10 nm – 1 µm for PN and LDSA.
Sampling rate	1–10 Hz
Response time	0.2 s
Sample flow rate	5.5 lpm
Output data	Particle number, LDSA and mass concentration, particle median size
Data communication	Bluetooth, RS-232, USB, Ethernet
Dimensions	495 x 340 x 185 mm
Weight	9.1 kg without the heated sampling line

Approvals and certifications

PTB, NMI, and Metas approved method for nPTI measurements.







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