

The logo for pegasor, featuring the word "pegasor" in a white, lowercase, sans-serif font. The letter "o" is replaced by a green circular icon consisting of concentric lines, resembling a globe or a sensor lens. The background is a modern office interior with a large vertical garden wall on the left and blurred figures of people in the foreground.

pegasor

INDOOR AIR QUALITY MONITOR

G2 AIRIN

Real-time detection of ultrafine particle number concentration and median particle size.

G2 AIRIN

MONITORING ULTRAFINE PARTICLES

Real-time monitoring

Low need of maintenance

WHO & EU recommendation

Ultrafine particles (UFP) in the air present a serious health risk to people. Most of these particles in ambient air come from traffic and energy-related combustion sources. These particles cannot be effectively measured with conventional technologies. Although huge in number, the mass concentration of UFPs is very small and they are invisible to optical systems. This is why we need new and sensitive electrical methods for monitoring UFP concentrations.

Both the World Health Organization (WHO) and the European Commission currently recommend that UFP number concentration monitoring should be widely used in addition to PM10 and PM2.5 measurements.

People spend most of their time indoors, either at home, work or public facilities. Monitoring of Indoor Air Quality (IAQ) is of great importance. Depending on the ventilation and filtration systems available, IAQ is affected by ambient air quality. UFP are also born and generated indoors. Main UFP sources in domestic indoor environment are combustion, heating, and house cleaning. UFP are also commonly generated in industrial processes and thus may affect greatly the air quality in work places.

Health and Well-being: Poor IAQ can have adverse effects on human health. It can lead to respiratory problems, allergies, headaches, fatigue, and more. By measuring IAQ, you can identify and mitigate potential health risks, ensuring the well-being of occupants.

Productivity and Comfort: People spend a significant portion of their time indoors, whether at home or in the workplace. Good IAQ contributes to a more comfortable and productive environment. Monitoring IAQ helps maintain optimal conditions for work, study, and leisure.

LEADING MEASUREMENT TECHNOLOGIES FROM PEGASOR

Pegasor's technologies are widely and globally used in industrial engine emission & aftertreatment monitoring. The latest Pegasor sensor, the G2, is now the leading solution used for periodic vehicle inspection in Europe.

The Pegasor G2 sensor provides long-term and real-time monitoring of particle number concentration and median size. The patented, proprietary technology combines diffusion charging with the so-called "escaping current" technology.



G2 AIRAM AND G2 AIRIN

The new Pegasor air quality monitoring solutions are powered by the Pegasor G2 sensor. G2 AIRAM (ambient urban air) and G2 AIRIN (indoor air) are the winning choices for monitoring ultrafine particles in various environments. Low cost of ownership, carefree use, and multiple data collection options allow state-of-the-art PN monitoring in a wide variety of applications.

- Indoor air quality monitoring
- Air filtration & air purification efficiency monitoring
- UFP exposure research
- Occupational health monitoring

Electrical measurement of particles has the range and sensitivity to support direct exhaust measurement. The dynamic range is also more than sufficient for air quality measurements. The new “dynamic trap” function allows the sensor to detect and report particle size information to you.

The G2 is designed for years of use with minimal maintenance, providing you with extensive self-diagnostics. It adapts easily to a wide variety of applications and OEM environments.

Containing no fragile parts and requiring zero attention from the user, the G2 sensor meets the harshest industrial requirements .

BENEFITS

CONTINUOUS & REAL-TIME MONITORING

- Just power up and start collecting data
- Multiple data options available

CAREFREE OPERATION

- Minimal maintenance
- No filters to change, no liquids to play with

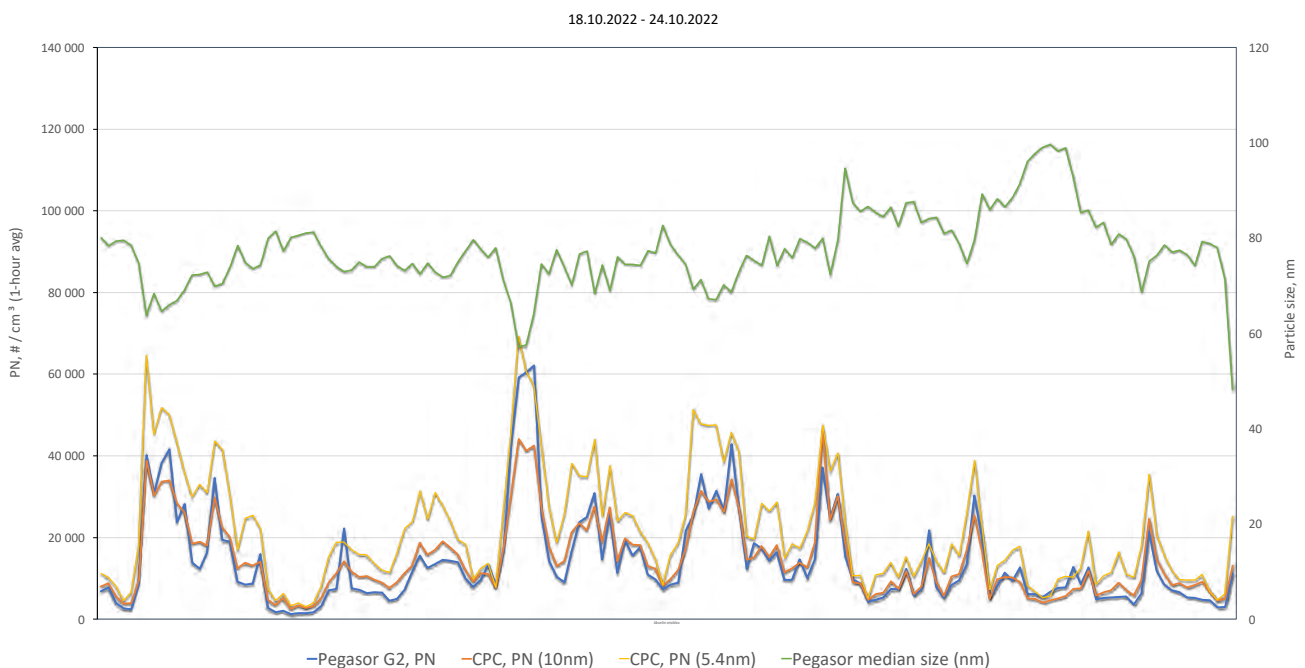
PROVEN SCIENTIFIC PERFORMANCE

- High dynamic measurement range
- Detects the most harmful ultrafine particles
- Repeatable, linear, efficient

PARTICLE NUMBER CONCENTRATION AND MEDIAN SIZE

- PN dominates the urban air particle pollution
- Meets the WHO recommendation (global air quality guidelines 2021)

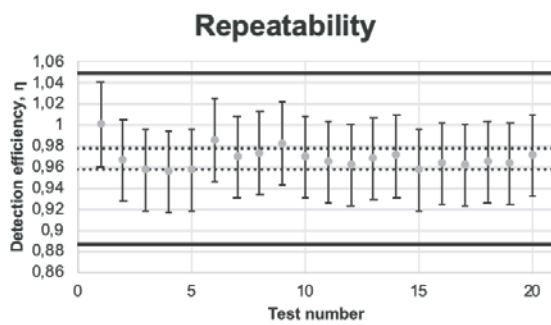
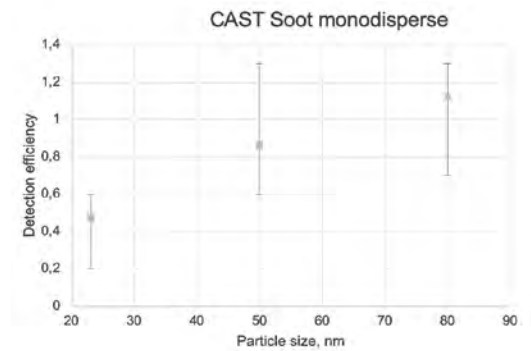
The sample data below is from an environmental monitoring network in Helsinki, Finland. The Pegasor G2 AIRAM (powered by the same sensor as G2 Airin) is installed on a key measurement station in a street canyon. Comparisons are between two CPC units. In addition to PN count, the Pegasor G2 sensor provides data on particle median diameter.



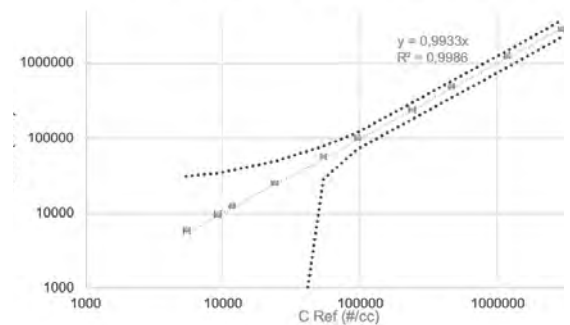
Federal Institute of Metrology METAS:

Test report 235-11079

Test	Criteria	Pass
Particle size; 2, 2.4.8	23 nm: $0.2 < CR < 0.6$ 50 nm: $0.6 < CE < 1.3$ 80 nm: $0.7 < CE < 1.3$	Yes Yes Yes
Linearity; Part 2, 2.1	MPE (Maximum permissible error): $\pm 2.5e4 \text{ cm}^{-3}$ or $\pm 25\%$ of reference value, whichever is greater	Yes
Repeatability; Part 1, 5.11	MPE standard deviation: 1/3 of the modulus of the MPE	Yes



Linearity test, 76 nm polydisperse CAST Soot



TECHNICAL SPECIFICATIONS

Concentration range: 1,000 - 50,000,000 #/cm³

Particle size range: 10 - 300 nm

Response time: < 1s

Output: Particle Number (PN) and median particle size

Data rate: 1-100 Hz

Power: 5 VDC

Data options: Modbus over ethernet, USB, cloud

Product dimensions: 100 mm x 150 mm x 200 mm

Weight: 1,8 kg

Pegasor is a specialist in developing and commercializing technologies and products for long-term, real-time and cost-effective detection of ultrafine particle concentrations in different branches. These include e.g. engine emissions, stack emissions and ambient / indoor air quality. Founded in 2008, Pegasor is a leading supplier in the industry.

pegasor

sales@pegasor.fi | +358 10 423 7370
Hatanpään valtatie 34 c, 33100 Tampere, FINLAND