



AQ GUARD

INDOOR AIR QUALITY MEASUREMENT

Measure Precisely. Assess Risks. Take Action.

Made in Germany



How Could **AQ GUARD** Help You Right Now?

In which rooms must air filters be used? How effective are air purifiers? Do other measures need to be taken? **AQ GUARD** supports you in answering these questions.

Exhaled aerosols are very small and remain in the air for a very long time. Pathogens can attach to these airborne, tiny particles beforehand and are exhaled with them.

A person suffering from lung disease exhales a multiple of aerosols than a healthy person. People who are near an infected person can breathe in these aerosols and become infected. This can be particularly problematic in poorly ventilated indoor environments.

AQ GUARD observes CO₂ concentration while measuring particle size distribution and concentration. This provides an accurate and reliable assessment of indoor air quality and infection risk.

Whether in schools, businesses, restaurants or other buildings, **AQ GUARD** provides operators and visitors with an objective assessment of air quality and infection risk based on scientific studies and methods.



Application Examples



CLASSROOMS



OFFICES



CONFERENCES AND LECTURES



RESTAURANTS



EVENTS



(INDOOR) LEISURE ACTIVITIES

Simulation and Measurement as a Foundation for Decision-Making

With **AQ GUARD** and its “Indoor Air Hygiene Professional” package Palas offers a software solution for sustainable, professional assessment of indoor air hygiene.

By combining CO₂ and particle counting (from a size of 150 nm upwards), an infection risk is determined for a specific room and usage situation (e. g. classroom, conferences).

With the help of artificial particles generated by an aerosol generator, effectiveness tests for room air cleaners can also be carried out directly on site (real room situation) – even if no people are present. This allows air hygiene concepts to be placed on a solid foundation and the requirement for room air cleaners to be determined. Up to four **AQ GUARDS** can be integrated at the same time for evaluation purposes.

LATEST TECHNOLOGY

- Determination of air quality index based on measurement of particulate matter, CO₂ and volatile organic compounds (VOC)
- Infection risk estimation via combined analysis of CO₂ and particle measurement data with high efficiency: even for the smallest particles
- High accuracy through advanced algorithms based on scientific findings

Aerosol generator

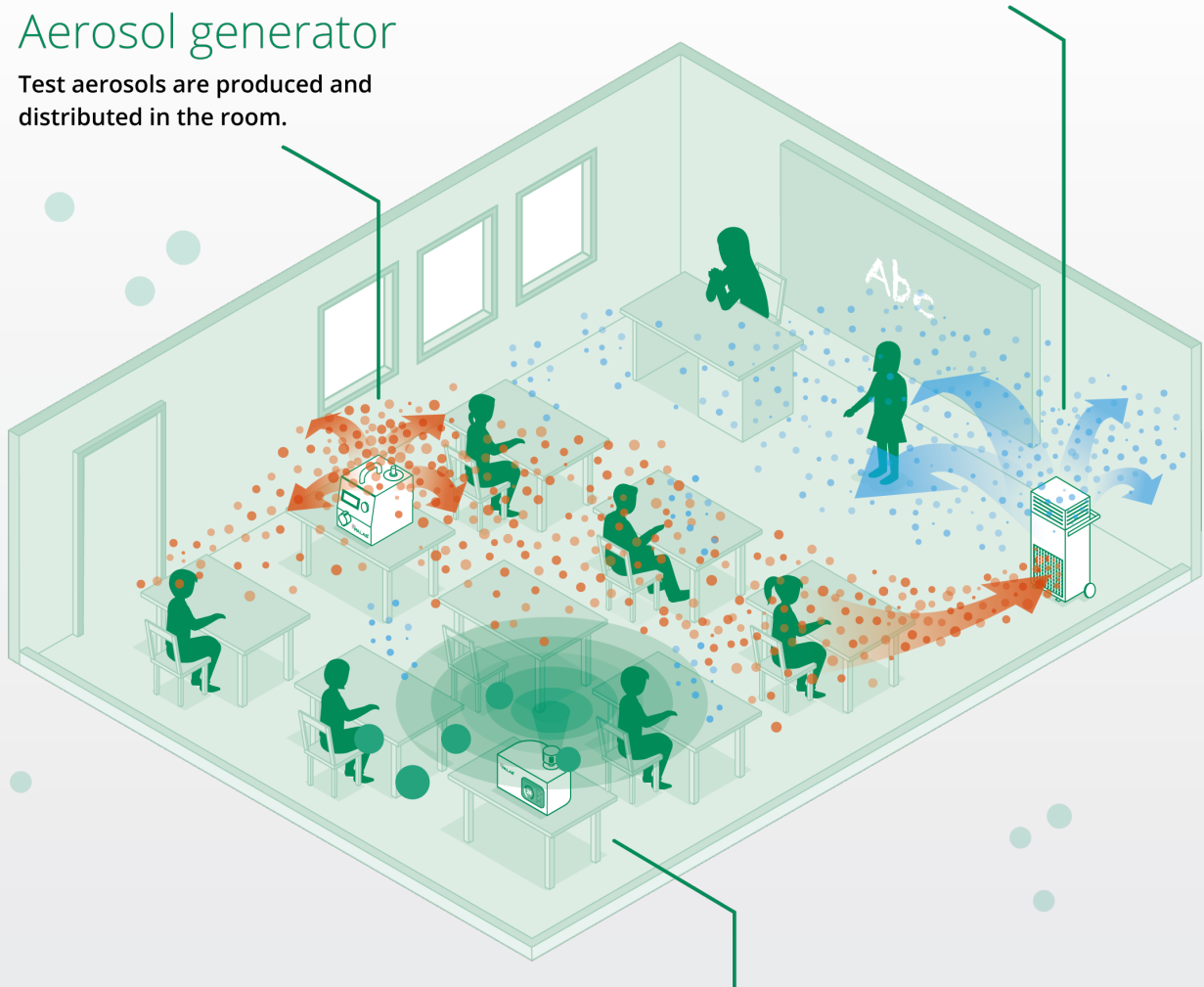
Test aerosols are produced and distributed in the room.

Room air purifier

A virus filter system ensures purified air.

Aerosol spectrometer

Permanent monitoring of the air quality by the AQ Guard.



Technical Features

Measuring priciples	Optical light scattering of single particles
Reported data	PM _{2.5} , T, rH, P With IAHP-Package installed: PM ₁ , PM ₄ , PM ₁₀ , TSP, C _N , particle size distribution, Infection Risk Index, Air Quality Index
Measurement range (number C _N)	0–20,000 particles/cm ³
Measurement range (size)	0.175–20 µm With IAHP-Package installed: starting from 0.15 µm
Measurement range (mass)	0–20,000 µg/m ³
Size channels	32/decade
Time resolution	1 s, moving average configurable
Interfaces	USB 2.0, Ethernet (LAN), Wi-Fi, 4G (optional via LTE stick)
Power supply	12 V, supplied power supply, alternatively operable with external battery (not included)
Installation conditions	-20–+50 °C
Dimensions (H • W • D)	175 • 280 • 140 mm
Weight	2.4 kg
Optional	PAG 1000 aerosol generator, software for room analysis with more than one AQ GUARD in a network

More Measurement Devices

... for use in regulatory environmental measurement.

The aerosol spectrometer **FIDAS® 200** continuously analyzes the fine dust particles present in the ambient air and, like the functionally identical variants **FIDAS® 200 E** and **FIDAS® 200 S**, is certified according to the EN 16450, EN 15267-1 and -2 guidelines.



... for mobile fine dust measurements.

Whether fine dust contamination in the air, dust contamination at workplaces or effectiveness measurement at air filters: **FIDAS® FROG** covers many application possibilities as a powerful aerosol spectrometer.



Palas is a leading developer and manufacturer of high precision instruments for the generation, measurement and characterization of particles in air.

With more than 30 active patents, Palas develops technologically leading and certified fine dust and nanoparticle analyzers, aerosol spectrometers, generators and sensors as well as related systems and software solutions. Palas was founded in 1983 and employs more than 100 people.

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