Tailor-Made Solutions for Cutting-Edge Air Filtration Testing

Home appliances related to environmental cleanliness and air purification, such as vacuum cleaners, air purifiers, air conditioners, have become a necessity for millions of households. One of the core components of these appliances is the air filter. In order to obtain air filters of high quality, a lot of research and development is needed to improve their performance.

Palas has a wealth of experience in the field of filtration performance test systems. That's why Electrolux, a century-old home appliance brand, chose the **FET System** to support its product testing, helping them to gain a deeper understanding of the air filter performance.

A Century of Innovation and Sustainability

Electrolux Group is a leading global appliance company that has shaped living for the better for more than 100 years. It reinvents taste, care and wellbeing experiences for millions of people, always striving to be at the forefront of sustainability in society through its solutions and operations. Under the group of leading appliance brands, including Electrolux, AEG and Frigidaire, it sells approximately 60 million household products in more than 120 markets every year.

Individual Requirements Demand Customized Solutions

In the early stages of the cooperation, Palas was favored by Electrolux due to its excellent overall strengths in terms of visibility, professionalism, market experience, equipment reliability, and after-sales service. Electrolux's trust in Palas stems from the SGS IBR Filtration Performance Laboratory in Suzhou. Previous filter tests have been carried out by commissioning this laboratory. The aerosol instruments used by SGS IBR are from the Palas.

Palas is committed to addressing the unique needs of its clients. Following detailed discussions on Electrolux's distinct specifications, Palas engineered an individual solution with the innovative **FET System** designed

Electrolux lab team with Palas instruments

Palas Instruments conducts on-site training for the Electrolux team

specifically for Electrolux. This solution combines the strengths of the **FET 300** and **FET 600** test rigs, offering a comprehensive approach to meet their requirements.

Palas' well-established sales and after-sales teams have been instrumental in the cooperation, and have been able to communicate with each other to provide a solution that perfectly matches the testing requirements. Ryan Sun, Senior Manager of Electrolux's Air Purification team, said: "Palas is one of the few suppliers of filtration performance testing systems with a branch office in China, and we are confident that the quick and easy provision of after-sales, maintenance, and technical support for the equipment will be of great convenience to us."

With the establishment of the complete air filter filtration performance test system, Electrolux's R&D team had a direct, fast, and accurate judgment on the performance of the filters, which greatly improved the team's R&D capability and efficiency.

Type of filter	General ventilation			EPA/HEPA/ULPA	Cabin
Standard	EN 779	ASHRAE 52.2	ISO 16890	ISO 29463 (EN 1822)	ISO 11155 / DIN 71460
Pressure drop	250 Pa (G class) 450 Pa (M/F class)	TBD	200 Pa (Coarse) 300 Pa (ePMx)	To be related to MPPS	TBD
Fractional efficiency	Yes (M/F class)	Yes (MERV 5 – 16)	Yes (ePMx)	Yes (E/H/U class)	Yes
Efficiency measurement	0.2 – 3 µm	0.3 – 10 µm	0.3 – 10 µm	At MPPS (0.02 – 1 µm)	0.3 – 10 µm
Test aerosol	DEHS (0.4 µm)	KCl	DEHS, KCl	DEHS/PaO (NaCl)	KCl / ISO A2 FTD approx. 15 mg/m³
Aerosol for dust loading	ASHRAE dust 70 mg/m³	ASHRAE dust 70 mg/m³	ISO A2 FTD 140 mg/m³	-	ISO A2 FTD 75 mg/m³

Extract of testing requirements of different standards.

Flexibel and Precise

The **FET System** is a comprehensive filter testing solution, featuring two duct systems to accommodate filters of varying dimensions. It includes oil and salt aerosol generators tailored to customer specifications, nano-particle measuring equipment (**U-SMPS 1050**), sub-micron particle measuring equipment (**Promo® LED series**), and the **FTControl** software for test system management and analysis. The Series offers a broad testing range, professional testing capabilities, and a logical structural layout to enhance the user experience while meeting the diverse testing needs of various filters and filter media across different applications.

https://www.palas.de/en/product/FETsystem