PALAS®

LFT System

# LEAKAGE SCAN TEST RIGS FOR HEPA/ULPA FILTERS

## Quick and Accurate

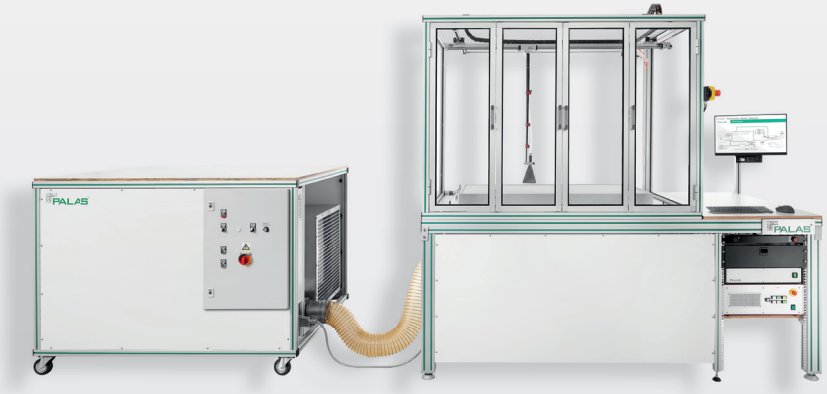
***Made in Germany***

# Identifying Leakage Points With The LFT System

**HEPA and ULPA filters are critical components in various industries, particularly in cleanrooms, healthcare, and areas requiring high levels of air purity. Testing these filters according to the ISO 29463-4/-5 standards is essential to ensure their performance meets the stringent requirements for particle filtration efficiency.**

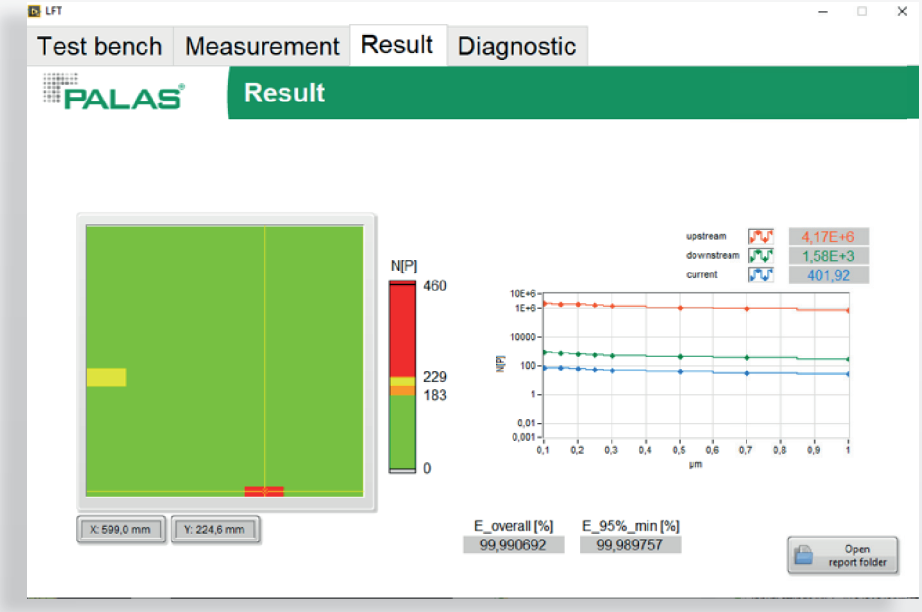
These standards help identify any leakage points and confirm the overall and local efficiency of the filters, thereby guaranteeing that they effectively remove particles from the air to the expected level.

The LFT System helps you to test according to the norm. It simplifies this process by quickly and easily detecting potential leakages, ensuring filters meet the high-efficiency criteria set forth by ISO standards for quality assurance.



# Application

The **LFT SYSTEM** scans both HEPA and ULPA filters to detect leaks, serving as a vital tool in the quality assurance processes of filter manufacturers. It adheres to industry standards, pinpointing the exact locations of leaks and enabling precise detection. This technology ensures the highest level of filter performance by accurately identifying and addressing any deficiencies.

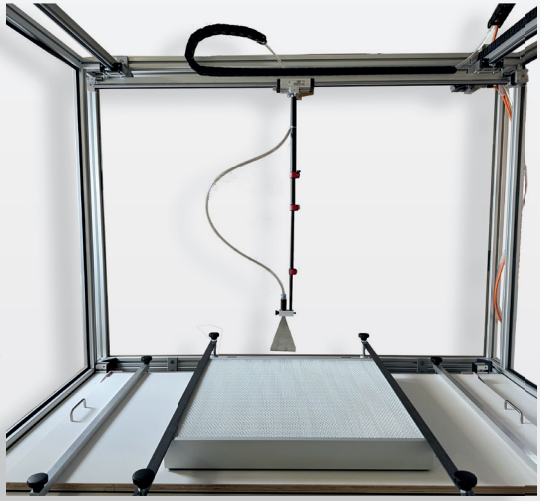


# Principle of Operation

The LFT System includes a supply air duct equipped for volume flow control and raw gas analysis, an adaptable filter holder, aerosol production and dilution mechanisms on the intake side, and a precision scanning system with integrated particle counters.

Additionally, a Windows-based control and evaluation unit streamlines operations. The system's advantage lies in its configuration, tailoring test parameters to specific filter classes and flow rates, ensuring consistent, repeatable measurements.

Initially, air is directed through a pre-installed filter with a rated air flow. Concentration and particle size is measured exactly with an OPC in upstream. The process includes detailed scanning across the filter surface to monitor pressure changes and particle emission, culminating in an accurate assessment of filter efficiency and the prompt detection of any leaks.



# LFT System

The three models of the LFT System can be adapted for individual needs.

### LFT 1000

- Manual scantest comparable to ISO 29463-4 Annex B with a photometer

### LFT 2000

- Manual scantest comparable to ISO 29463-4 Annex F with a particle counter

### LFT 3000

- Automatic leakage scan test in accordance with ISO 29463-4 and -5

Each model is delivered with a suction unit. There are three air control units available:

- Small: 100–1,200 $m^3/h$
- Medium 350–3,500 $m^3/h$
- Large: 500–5,000 $m^3/h$

# Special Advantages and Benefits

### Accurate testing

- Quick and accurate scanning
- Clear leak detection
- Wide range of efficiency testing with regards to ISO 29463-4/5 (-3)
- High repeatability and reproducibility

### Ease of use

- Automatic test report
- Easy installation of filter elements

### Flexibility

- Adapters for various filter dimensions
- Modular set-up – flexible configuration available therefore highest flexibility concerning customers' requirements
- Multi functional software with pre-defined measurement procedures – individual programming

# Technical Features

| | |
|---|---|
| **Measuring range (total penetration)** | 5–0.00005% (on request) |
| **Measurement range (size)** | From 0.1 or 0.3 µm (depending on version) |
| **Size filter element (H • W • D)** | 300 • 300–600 • 1,200 mm |
| **Volume flow** | 100–1,200 $m^3$/h (small suction unit)<br>350–3,500 $m^3$/h (medium suction unit)<br>500–5,000 $m^3$/h (large suction unit) (others on request) |
| **Aerosols** | Liquid aerosols (e.g., DEHS) |
| **Differential pressure measurement*** | 0 – 1,200 Pa |
| **Power supply** | 400V, 50 Hz (others on request) |
| **Compressed air supply** | 6 bar |

Palas is a leading developer and manufacturer of highprecision 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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