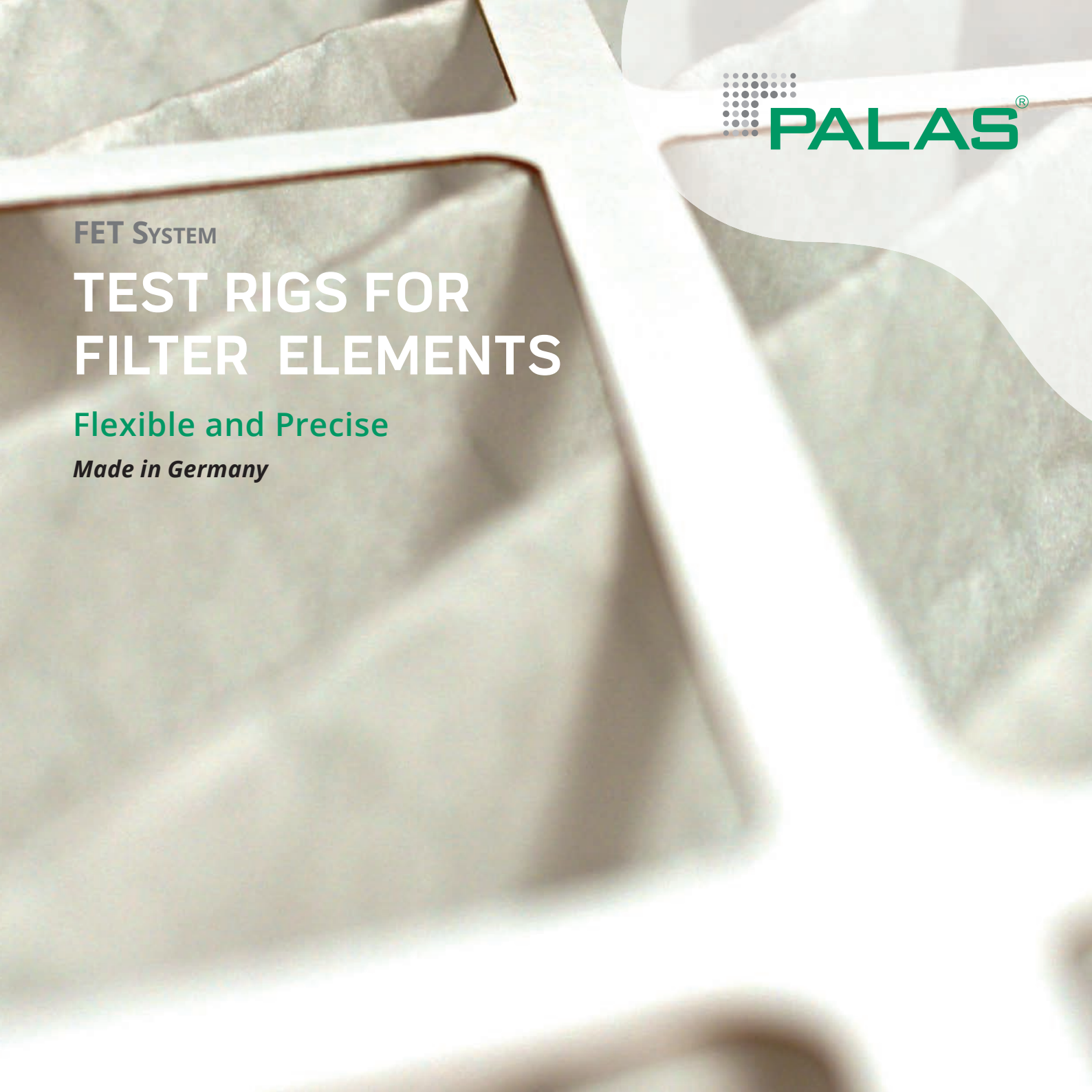

PALAS®

FET System

TEST RIGS FOR FILTER ELEMENTS

Flexible and Precise

Made in Germany

Quality Control for Filter Elements: FET System

The test rigs of the **FET Systems** enable a reliable control of complete filter elements up to a size of 610 • 610 • 610 mm. This allows you to effectively and reliably ensure the quality of your products.

Our test equipment tests better than required by numerous standards, e.g., ISO 16890, ISO 11155, ISO 5011, ASHRAE 52.2 or ISO 29463-3/-5.

In addition to total penetration, pressure drop across the filter elements and loading, the **FET Systems** test rigs determine fractional collection efficiency over a size range of 0.02 up to 40 µm.

The **FET System** includes three models adapted to the different sizes of filter elements:

- **FET 100** for small filter elements up to a cross-sectional area of 100 • 100 mm
- **FET 300** for medium filter elements up to a cross-sectional area of 305 • 305 mm
- **FET 600** for large filter elements up to a cross-sectional area of 610 • 610 mm

Application Examples

PASSENGER COMPARTMENT FILTER

HEPA/ULPA CLEAN ROOM FILTER

ROOM AIR FILTER

CABIN FILTER

ENGINE AIR FILTER

COMPRESSOR SUPPLY AIR FILTER

Principle of Operation

With our technology, we can count particles of very small size. The total efficiency is tested as well as the fractional separation efficiency, i. e. the efficiency over the particle size or the particle size-dependent penetration. Differential pressure measurements and loading tests or gravimetric measurements based on different standards are also possible.

For efficiency measurements, the instrument works with different dust, salt, oil as well as latex aerosols over a size range from 0.02 upto 40 µm.

Thanks to individual adapters and customer-specific adaptations in the air duct, the **FET System** can be used for a wide variety of filter elements. Special designs and special functions are available on request.

FET System

The **FET System** consists of three models adapted to the different sizes of filter elements being tested.

The test procedures follow relevant standards for e.g., indoor (ISO 16890, ASHRAE 52.2 or ISO 11155), HEPA (ISO 29463-3/-5) or air inlet filters (ISO 5011) to determine filter efficiency and flow resistance.

FET 100 FOR SMALL FILTER ELEMENTS UP TO A CROSS-SECTIONAL AREA OF 100 • 100 MM

- Compact test rig in compressed air mode
- Testing with dust, salt, oil or latex aerosols

FET 300 FOR MEDIUM FILTER ELEMENTS UP TO A CROSS-SECTIONAL AREA OF 305 • 305 MM

- Easy change of filter elements
- Testing with dust, salt, oil or latex aerosols

FET 600 FOR LARGE FILTER ELEMENTS UP TO A CROSS-SECTIONAL AREA OF 610 • 610 MM

- Measurement setup with customized filter adapters
- Testing with dust, salt, oil or latex aerosols

Special Advantages and Benefits

Accurate, versatile testing

- Measurement according to ISO 29463-5 and 29463-3, as well as ISO 16890 (ISO ePM_1; ISO $ePM_{2.5}$; ISO ePM_{10}) in one channel possible (depending on model)
- Dual channels on request
- Particularly wide range of application for separation efficiency measurement from 0.02 to 40 µm
- Measurement of dust holding capacity possible (**FET 100**, **FET 300**)

Flexibility and ease of use

- Customization of filter adapters, flow channel and measuring ranges possible for optimal test performance
- Modular compact design for small filter elements, low space requirement
- Horizontal design for minimization of particle losses
- Calibration of raw gas/pure gas not necessary, because only one sampling and one measuring device is used

Safety

- Logged results based on relevant standards
- Factory tested and calibrated test stands

Technical Features

Measuring range (total penetration)	Up to 0.0005 %
Measurement range (size)	0.004–100 µm
Size filter element (H • W • D)	Customization possible 100 • 100 • 100 mm (FET 100) 305 • 305 • 305 mm (FET 300) 610 • 610 • 610 mm (FET 600)
Volume flow	1–27 m^3/h (FET 100) 2–200 m^3/h (FET 300) 40–1,500 m^3/h (FET 600) (others on request)
Aerosols	Dusts (e.g., SAE dusts), salts (e.g., NaCl, KCl), liquid aerosols (e.g., DEHS), latex particles (PSL)
Differential pressure measurement*	Customization possible 0–1,200 Pa selectable 0–2,500 Pa selectable 0–5,000 Pa selectable

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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