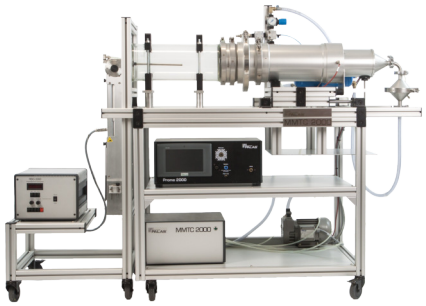
MMTC 2000



The compact and robust layout of the MMTC 2000 and its functional and straightforward operation have impressed our customers in the industry. With the aid of the MMTC series, standard filter media tests can be performed in accordance with VDI 3926 (including aging). Different media are optimized for various applications in terms of their structure and surface treatment. This minimizes emissions and increases the service life of the medium. In contrast to the VDI guidelines, with the aid of the MMTC series, it is possible to perform reliable filter media tests with different powders used in practice.

Model Variations

MMTC 2000 E
Stainless steel version for temperatures up to 70 °C

MMTC 2000 EH
Stainless steel version with heating and insulation for temperatures up to 250 °C

MMTC 2000 EHF
Stainless steel version with heating for temperatures up to 250 °C and humidity control

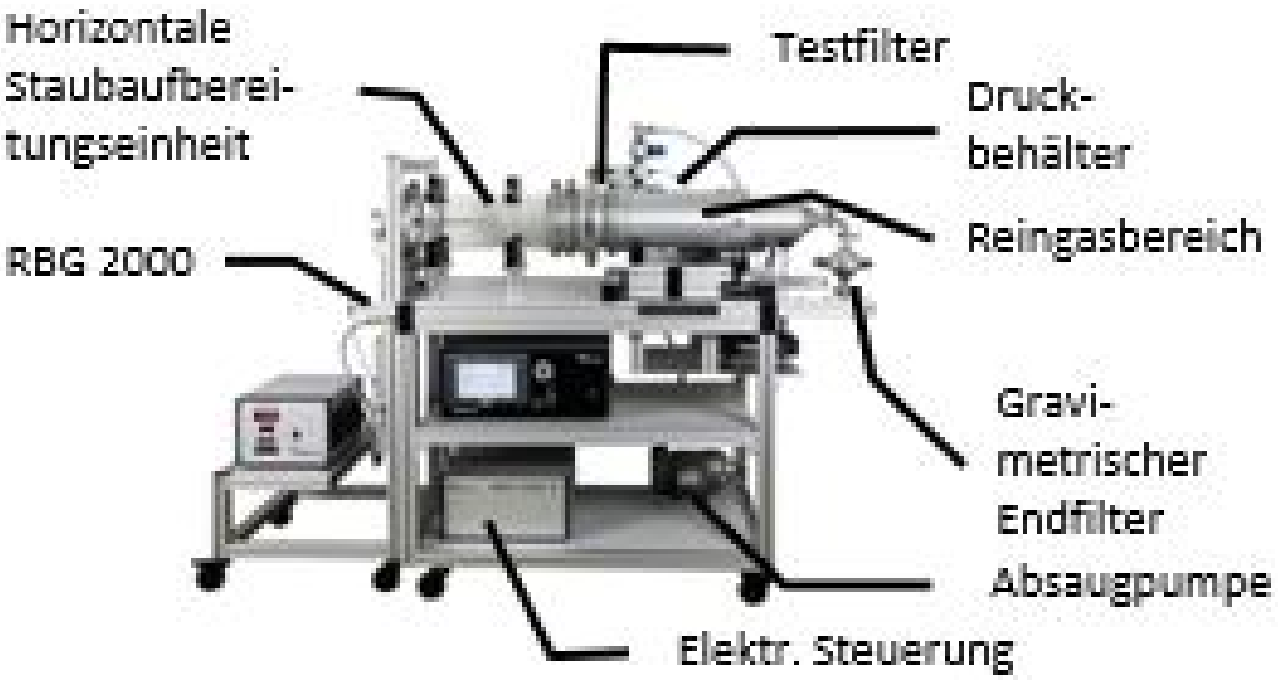
OPERATION PRINCIPLE

FILTER TEST RIG FOR CLEANABLE FILTER MEDIA

A test aerosol burden is applied to the test filter in the procedure. The rise in pressure loss is measured on the test filter. If a defined pressure loss is reached or a predefined time interval is exceeded, the filter medium is cleaned off using a blast of compressed air. These cycles are repeated until the end of the test procedure.

To compare the different filter media, the following data is collected:

- The pressure loss curve on the test filter and the gravimetric end filter
- The residual pressure loss curve after cleaning
- The mass emission at the gravimetric end filter
- The particle penetration in the clean gas with Promo® (optional)



Dust dispersion with the RBG 2000

- Suitable for many different dusts used in real practical applications. The filtration and cleanability properties of surface filter media depend to a very large extent on the properties of the dust being filtered. It is, therefore, vital that these media can be tested with dusts used in real practical applications.
- Automatic control of the dust disperser RBG 2000 via the software of the MMTC 2000. This also offers you a simple way to adjust the mass flow rate.
- Particularly large dust containers for long testing times.

Horizontal dust processing unit:

- Minimization of particle losses through sedimentation and virtually homogeneous dust distribution on the test filter

- Simple adjustment of the raw gas concentration
- Re-application of fine dust to the filter after cleaning – as in practice
- Only small quantities of dust required

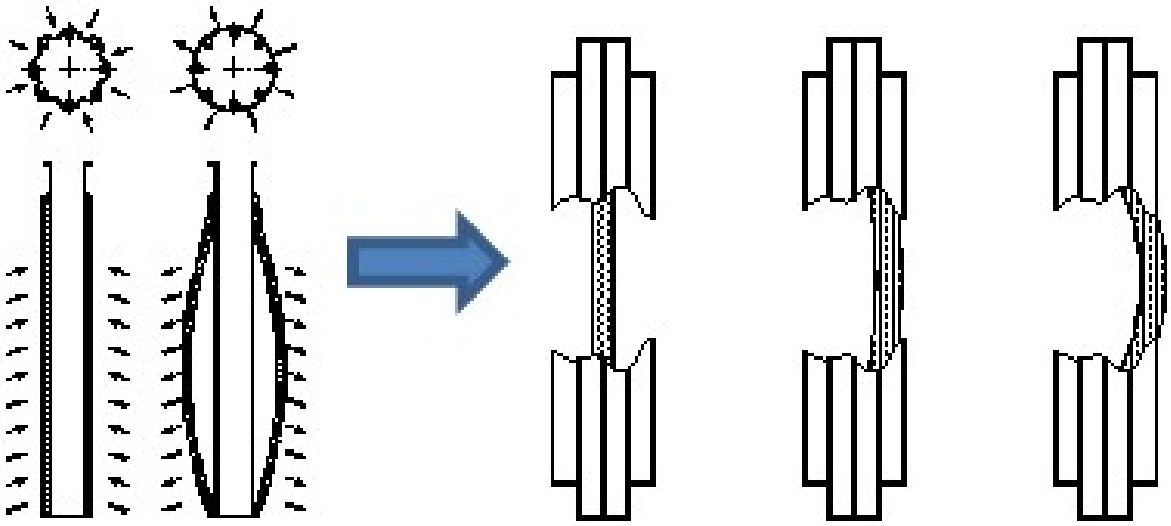
Before starting a filter test, an automatic test can be performed to check its leak-tightness in 3 minutes.

Aerosol sampling in the clean gas for online emission measurements with the Promo® system

- Representative isokinetic sampling
- No influence on the cleaning pulse
- High time resolution of 1 s to display the particle penetration during the cleaning pulse

Simulation of the so-called garland effect:

In practical applications, how the medium is prepared and cut to size on the supporting basket influences a filter's cleaning characteristics and dust emissions. This is referred to as the so-called "garland effect." Palas offers adapters with different support devices for the test filter to simulate this effect in the laboratory.



In-situ measurement:

The simulation of realistic conditions in the laboratory often requires a significant investment in time and money. However, thanks to its compact design, the MMTC 2000 can be simply attached to a filter housing to perform the filter test under realistic conditions.

Extensions/Accessories

MMTC software

Windows-based software for controlling the test system, including automatic test procedures and data analysis:

- Standard test method in accordance with VDI 3926 (with aging)
- Standard test report and data analysis in accordance with VDI 3926
- Individual adjustment of operating parameters

- Individual programming of the test method
- Individual evaluation of the residual pressure loss and cycle time, comparison of individual cycles, and representation of the overall test
- Data export to Excel

BENEFITS

- High reproducibility of the testing method
- Different dusts from real applications can be used
- Quick and easy adjustment of the raw gas concentration
- Simulation of the so-called garland effect
- Suitable for in-situ measurements
- Online measurements of the particle size and particle concentration with the light scattering spectrometer welas® digital
- Lightweight, small, and mobile design
- Easy handling, easy cleaning
- Quick set-up time when changing the filter or test dust
- Validation of the clear function of individual components and the overall system during pre-delivery acceptance testing
- Reliable operation
- Short set-up times, extremely low-maintenance

NORMS AND CERTIFICATES

VDI 3926

DATASHEET

Aerosols	Dusts (e. g. SAE dusts)
Test area of the medium	177 cm^2
Volume flow	1 – 5.5 m^3/h (others on request, suction mode)
Power supply	120 – 230 V, 2A (single phase connection)
Differential pressure measurement	0 – 5,000 Pa
Inflow velocity	3 – 8.8 cm/s (others on request)
Compressed air supply	6 – 8 bar
Pulverdispergierer	RBG 2000 for non-cohesive powders and bulks as e. g. Pural NF, Pural SB, ISO A2 fine, ISO A4 coarse, different types of TiO2 and other powders from practice, mass flow: approx. 0.2–90 g/m^3 (depending on powder size and density)
Valve opening times	50 – 500 ms
Pressure for pulse jet cleaning	Adjustable up to 6 bar_g
Dimensions	Approx. 1,200 • 630 • 1,700 mm (H • W • D)

APPLICATIONS

- Standardized test in accordance with VDI 3926
- Individual tests under close-to-real conditions as defined by the different process conditions, e.g., in the cement industry, wood-processing industry, pharmaceutical industry, chemical industry, nuclear power plants, and many other areas...

Mehr Informationen:
https://www.palas.de/en/product/mmtc2000