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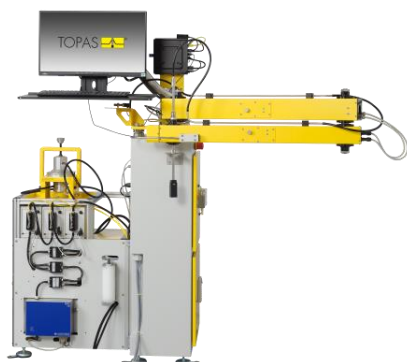
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Manual HEPA/ULPA Filter Scanning Test System according to EN1822-4/5, ISO29463-4/5

AFS 152



Manual HEPA/ULPA Filter Scanning Test System AFS 152

- fully automated aerosol generation, particle counting upstream/downstream, test data acquisition
- State-of-the-art aerosol measurement technology
- 100 % traceable documentation of the filter scan area
- high spatial x-y-resolution and fast particle counter display for accurate leak detection
- integrated filter frame scan
- optional: Filter inflow unit, downstream flow hood for integral efficiency measurement, media tester AFS 153

Main purpose and principle of operation

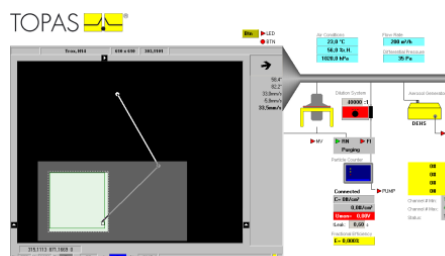
The main purpose of this air filter test system is to determine the quality of HEPA and ULPA air filters in accordance with manufacturing specifications. The Manual Filter Scanner can be integrated into existing test systems. The aerosol is generated by the Topas aerosol generator ATM 230 using the standard test liquid DEHS. The sampling probe is moved manually over the entire filter and filter frame. During the entire test procedure, raw air and clean air concentrations are measured with a particle counter. For the latter, the particle counter is used in combination with the SYS 520 sampling switching unit. The software determines and protocols the clean-air particle concentration, the coordination of the sampling probe and the scanning speed.

Features

- Test protocol fully complies with EN 1822-4/5 / ISO 29463-4/5 standards (local & integral efficiency)
- Cost-effective test procedure using a manual x-y scanning process

Applications

- Quality control and assurance of HEPA and ULPA filter production
- EN 1822-3 / ISO 29463 -3: Determination of MPPS for filter media (optional: AFS 153)
- EN 1822-4 / ISO 29463 -4: Determination of local filter efficiency, leak detection
- EN 1822-5 / ISO 29463 -5: Determination of integral filter efficiency (optional: flow hood measurement)

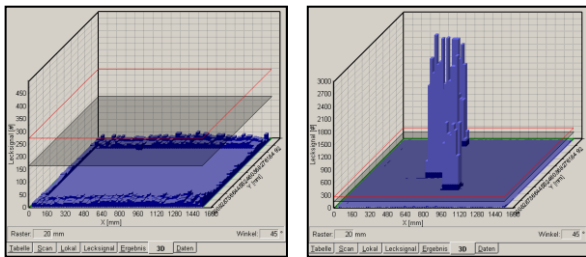


Representation of the AFS152 test system in the software "AFS152Win"

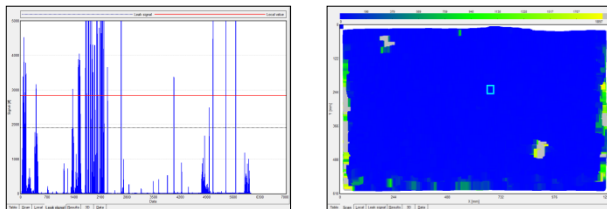
Specifications

Software

The controlling of all implemented instruments, including data acquisition, is handled by software developed at Topas (AFS152Win). The software guides the operator through the entire test process and generates an EN 1822-4 / ISO29463-4 compliant test report. All tests conducted are stored in a database that enables traceable quality assurance during filter manufacture.



Representation of a leakage test during a local filter efficiency test, leakage signal value (left), transient curve (right)



Representation of a leakage test during a local filter efficiency test, leakage signal value (left), transient curve (right)

Options

A filter inflow unit for mounting the test filter and for generating the filter air flow as well as a filter media holder for flat media efficiency determination are available on request. A significant innovation is the different maximum sizes of the available inflow units as well as the now available hood for determining the integral efficiency of filter elements of the various sizes.

Local efficiency EN 1822-4 ISO 29463-4



AFS152 with big inflow unit
1830 x 915 mm



Small inflow unit
1220 x 610 mm

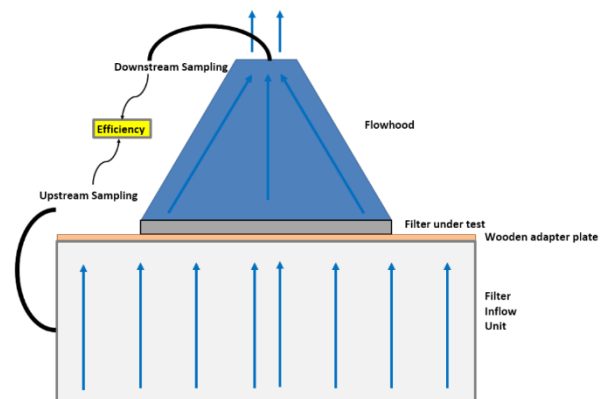
Integral efficiency EN 1822-3/5 ISO 29463-3/5



AFS 153
media tester



Integral flow hood
measurement



Schematic diagram of the integral filter efficiency determination by using the flow hood according to EN 1822-5 / ISO 29463-5

Specifications

Technical specifications

AFS 152 Manual filter scanner

Test rig dimensions in mm (W × H × D)	min. 1400 × 1800 × 1100 max. 2500 × 1800 × 2350
Filter dimensions in mm (W × H × D)	min. 305 × 305 × 30 max. 1830 × 915 × 300
Filter classes	H13 – U16
Aerosol substances	DEHS, PSL
Aerosol generator	ATM 230
Dilution systems	2 x DIL 540/B 1:100 1 x DIL 540/B 1:10
Compressed air supply	6000 hPa (~6 bar)
Power supply	230 VAC, 50 Hz, 10 A
Weight	100 kg

Technical specifications

AFS 152 inflow units

Inflow unit dimensions in mm (W × H × D)	1400 × 750 × 850 (small) 1900 × 750 × 1000 (big)
Filter dimensions in mm (W × H)	max. 1220 × 610 (small) max. 1830 × 915 (big)
Air face velocity	0,45 m/s
Volume flow	min 150 m³/h (small) max. 2000 m³/h (small)
	min. 300 m³/h (big) max. 4000 m³/h (big)
Filter pressure drop	max. 400 Pa
Power supply	230 VAC, 50 Hz
Weight	100 kg (small) 150 kg (big)

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