MFP 3000 G



Version MFP 3000 G is especially tailored to the requirements of the ISO 16890 measurement procedure.

Operation principle

Testing filter media better than ISO 16890 room air filters

Aerosol generation with RBG 1000 G (loading) and PLG 1000 and LSPG 16890 (fractional separation efficiency measurement):

A mass flow controller regulates the dosing air for the RBG 1000 G solid particle aerosol generator, the PLG 1000 liquid aerosol generator, and the LSPG 16890 salt aerosol generator. This ensures the same operating conditions are always maintained.

DLB 2000 compressed air humidifier for the dispersion air:

Dry compressed air is generally used for the aerosol generation, whereby, at the very low volume flows in filter media testing, the rel. humidity of the test volume flow can drop considerably. The DLB 2000 compressed air humidifier can condition the rel. humidity and temperature of the RBG 1000 dispersion air precisely to the required values, thus minimizing the influence of rel. humidity on the dust holding capacity to be measured.

Aerosol inlet and aerosol neutralization on MFP 3000 G:

The aerosol inlet on the MFP 3000 G neutralizes the test aerosol. It ensures a homogeneous distribution of the test aerosol in the raw gas channel. The simple construction allows rapid replacement of the aerosol generator, and the raw gas channel is easy to clean.
This special aerosol inlet allows simultaneous connection of all aerosol generators, such that the test sequence can be mainly performed automatically.

welas® 2300 aerosol sensors:

The welas® 2300 high-concentration sensors ensure unambiguous and coincidence-free fractional separation efficiency and excellent count statistics with DEHS. These sensors are also fitted with a special aerosol guide that minimizes contamination of the internal optics.

Software:

In the sequence program for the ISO 16890 measurement procedure, the individual test steps - differential pressure measurement, fractional separation efficiency measurements - and the various differential pressure levels can be set for loading in accordance with ISO 16890 requirements. The precise definition of the test parameters in the pre-programmable sequence programs ensures a very high level of comparability of the results. The evaluation and creation of the test record in accordance with ISO 16890 is included in the software supplied.

BENEFITS

- Virtually simultaneous particle measurement in up- and down stream
- High reproducibility of the testing method
- Easy use of different test aerosols, e.g. SAE Fine and Coarse, NaCl/KCl, DEHS
- Highest raw gas concentrations of up to > 70 mg/m^3 (ISO Fine) or > 300 mg/m^3 (ISO Coarse) with measurement of the fraction separation efficiency for loading tests
- Sequence programs for pressure loss measurements, measurements of fraction separation efficiency and burden measurements
- Short set-up times
- Cleaning and calibration can be performed autonomously by the customer
- Easy use of the measurement technology components – even in other applications
- Mobile setup, easy to move on castors
- Validation of the clear function during acceptance testing

NORMS AND CERTIFICATES

ISO 5011, ISO/TS 19713, DIN 71460, ISO 11155-1, EN 779, ASHARE 52.2, ISO 16890

DATASHEET

Aerosols	Dusts (e.g., SAE dusts), salts (e.g., NaCl, KCl), liquid aerosols (e.g., DEHS)
Test area of the medium	100 cm^2
Measurement range (size)	0.2 – 40 μm
Measurement range (mass)	Up to 1,000 mg/m^3 (depending on the version)
Volume flow	1 – 36 m^3/h - suction mode
Differential pressure measurement	0 – 1,200 Pa selectable, 0 – 2,500 Pa selectable, 0 – 5,000 Pa selectable
Inflow velocity	5 cm/s – 1 m/s (others on request)
Compressed air supply	6 – 8 bar
Dimensions	2.500 • 680 • 1.550 mm (H • B • T)

Applications

- Testing of filter media and small filter elements in product development and during production monitoring.
- Testing option based on ISO 16890 (General ventialtion air filters), the test procedure according to ASHRAE 52.2 or EN 779 is optinal available.

Mehr Informationen:
https://www.palas.de/en/product/mfp3000g