FTControl

The FTControl software is used for the reliable and economic performance of filter tests and fractional separation efficiency measurements with the welas® digital and Promo®optical aerosol spectrometer.

The FTControl software gives users special advantages, including individually programmable sequences for fractional separation efficiency measurement. A simple menu navigation system guides the user through the measurement program, and the results are automatically calculated and displayed.

Individual test rig components, such as volume flow controls, aerosol generators, and a measuring point switch, can be controlled using the integrated test rig control system, resulting in fully automated filter tests.

Palas software solutions in particle measurement technology, filter testing, and test rig control are based on our many years of experience. They have been continuously optimized and further developed in close collaboration with our international customers based on their requirements.

As a result, Palas software is efficient and provides many advantages in daily applications.
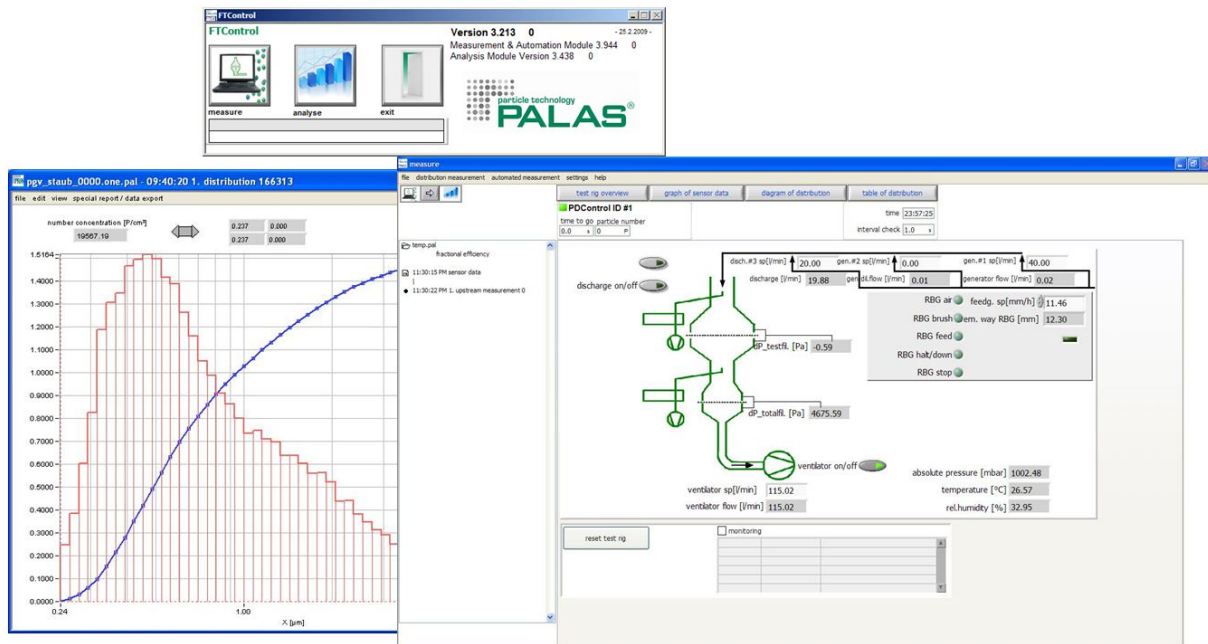
We will be happy to send you our demo software.

OPERATION PRINCIPLE

CONTROL OF ENTIRE FILTER TEST RIGS

Example: MFP 1000 automated filter test rig

Automated components: RBG 1000 aerosol generator, Promo® 1000, volume flow control,

Integrated sensors: Differential pressure, temperature, relative humidity
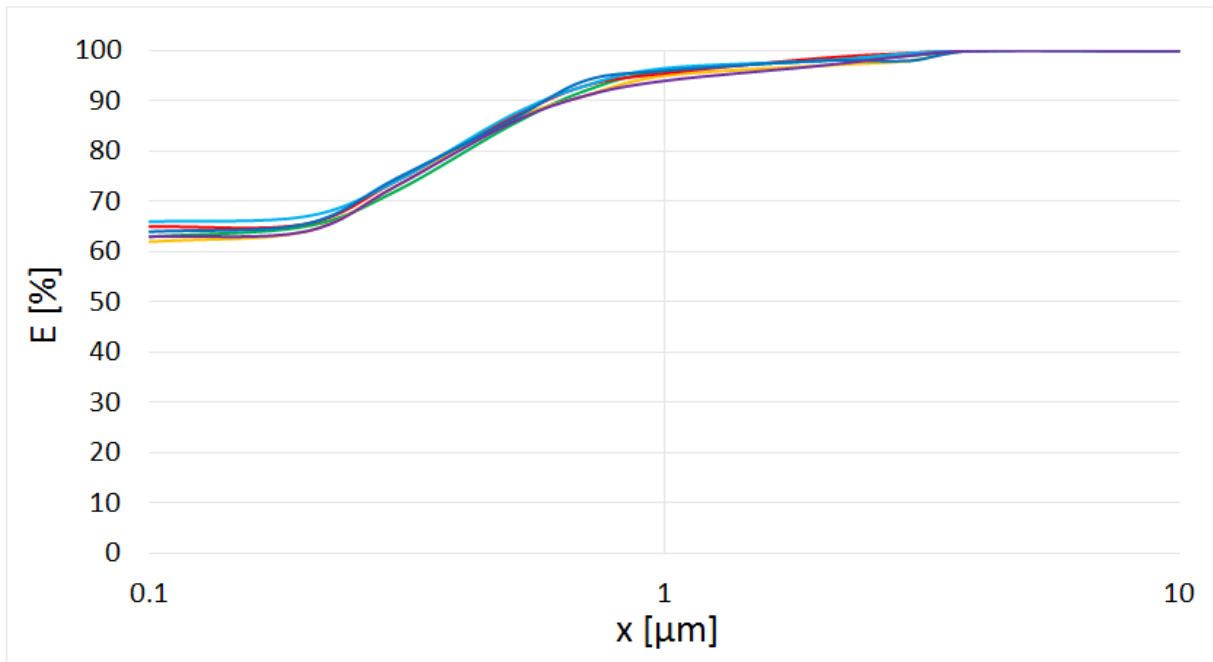
Individually configurable sequence programs
Examples:

- Fractional separation efficiency measurement with

    – Automatic control of crude gas/pure gas

    – Selection of measurement time in crude gas/pure gas

    – Selection of number of repeat measurements

- Service life measurement, filter behavior during dusting

    – Such as fractional separation efficiency measurement

    – Discontinuation criterion for measurement of discharge pressure loss or time

- Pressure loss measurement

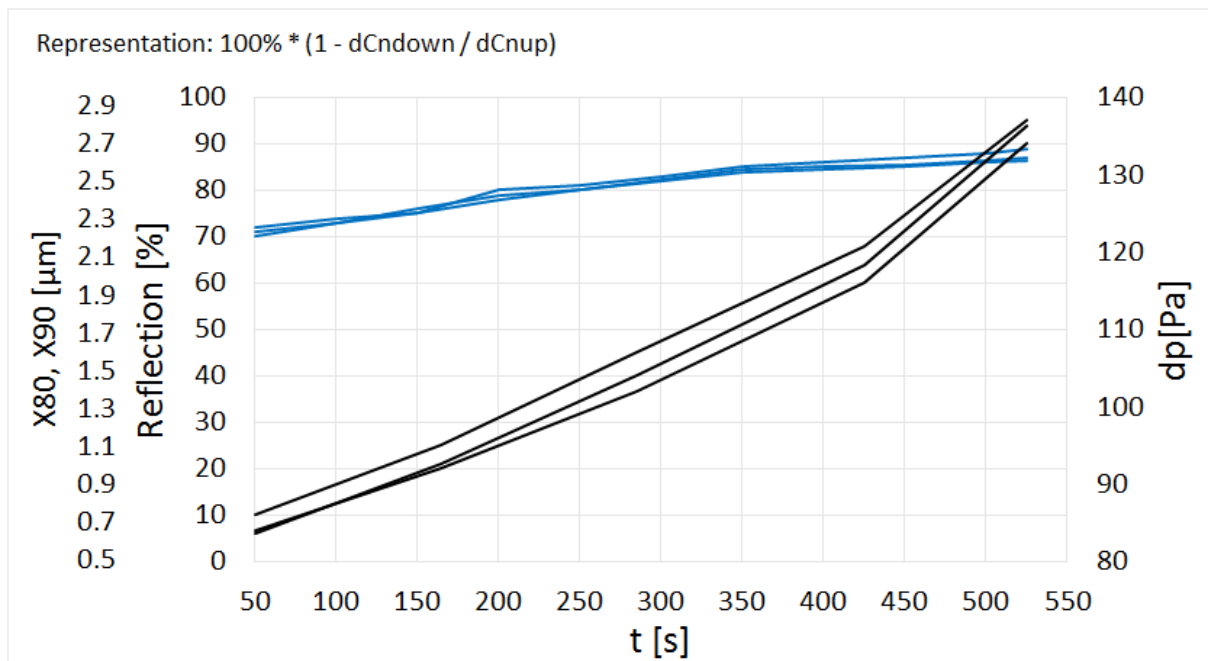   – Measurement of the undusted filter at various specified volume flows

External sensor data are recorded and stored in parallel FTControl offers numerous other options, test conditions, and test time sequences to define automated measurements.

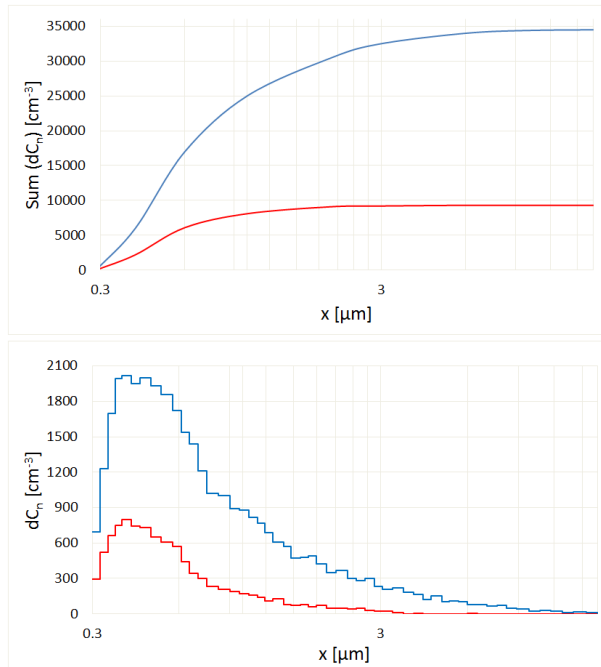Display and comparison of fractional separation efficiency
Example: Comparison of 8 fractional separation efficiencies for quality assurance

Display and comparison of pressure loss curves and retention during loading of filters over time
Example: Comparison of the pressure loss curve and overall retention of 3 filter media during dusting, as measured on the MFP 3000

Display and comparison of particle size distributions, e.g., number, volume, mass distribution
Example: Comparison of the particle size distribution for crude (blue) and pure (red) gas measurement during filter testing

Analysis in table form, including the test conditions
Example: Fractional separation efficiency measurement on the MFP 2000

fag_weiße maus_mk prüfstand_0000.frac.pal — Fraktionsabscheidegrad

Datei Bearbeiten Ansicht Spezialreport / Datenexport

Xu [µm]	X [µm]	Xo [µm]	dX [µm]	dCnroh [P/cm²]	dCnrein [P/cm²]	P [%]	E [%]
0.294	0.305	0.316	0.022	658.047	317.776	51.1114	48.8886
0.316	0.328	0.340	0.024	1087.402	586.458	50.9993	49.0007
0.340	0.352	0.365	0.025	1485.515	754.273	50.3828	49.6172
0.365	0.379	0.392	0.027	1562.639	725.708	47.5914	52.4086
0.392	0.407	0.422	0.029	1647.796	750.702	45.4954	54.5046
0.422	0.437	0.453	0.031	1727.597	768.555	43.9249	56.0751
0.453	0.470	0.487	0.034	1769.015	738.205	42.1803	57.8197
0.487	0.505	0.523	0.036	1773.121	714.997	40.3287	59.6713
0.523	0.543	0.562	0.039	1678.324	653.405	38.5386	61.4614
0.562	0.583	0.604	0.042	1581.027	574.854	36.1220	63.8780
0.604	0.627	0.649	0.045	1516.758	501.658	33.4503	66.5497
0.649	0.674	0.698	0.048	1356.977	419.536	31.8104	68.1896

Statistik

x80 1.213 µm   x95 2.681 µm   Retention dCn 70.575 %   Retention dCm 98.568 %

Filterfläche:	100.000 cm^2
Anströmgeschwindigkeit:	20.0 cm/s
Staubmassenkonzentration:	150.0 mg/m^3
Staubart/Aerosol:	sae fine a2
Entladung:	Nein
Gesamtvolumenstrom:	120.0 l/min

dP_Testfilter Anfang: 80 Pa
dP_Testfilter Ende: 84 Pa

Auswertebereich

0.3 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0 16.0 17.5um

0.300 um   Anzahl der Intervalle pro Dekade   17.50 um

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Glätt 1

BENEFITS

- Optimal information content:

    - Display and comparison of fractional separation efficiency

    - Averaging of fractional separation efficiency

    - Display and comparison of pressure loss curves and retention during the loading of filters over time

- Display and comparison of particle size distributions, e.g., number, volume, mass distribution

- All displays in the diagram and table form

- Output of test reports (printer, PDF file, Excel export)

- Option to control entire filter test rigs

- Sequence program for

    - fractional separation efficiency measurement

    - Service life measurement

    - Pressure loss measurement

- Individual test procedures

    - Filter testing as per EN 779

    - ISO 5011, ISO DIS 19713-1 and -2

    - Upon the request of the customer

- Also, able to be used with other particle measuring devices

- Acquisition and analysis in 1-s cycles

- Easy installation

- Clear structure

- Short processing times

- Easy to operate

- Regular updates via the Internet free of charge

- Unlimited copies for various workstations within a company

- Reliable function

- Reduces your operating expenses

DATASHEET

Operating system	Windows® 7, Windows® 10
Processor	Min. Pentium I5, 2000 MHz
User memory	From 4 GB
Screen resolution	15.6″ (min.1600 • 900 for Notebooks), 24″ (min. 1920 • 1080 for PCs)
Measurement devices	welas® digital System, U-SMPS System, Promo® System

Applications

Determination of separation efficiency of

- Car interior filters
- Engine air filters
- Ambient air filters
- Compressed air filters
- HEPA filters
- Vacuum cleaner filters
- Cleanable filters
- Electrofilters
- Oil separators
- Cooling lubricant separators
- Wet scrubbers
- Cyclones and other separators

Mehr Informationen:
https://www.palas.de/product/ftcontrol