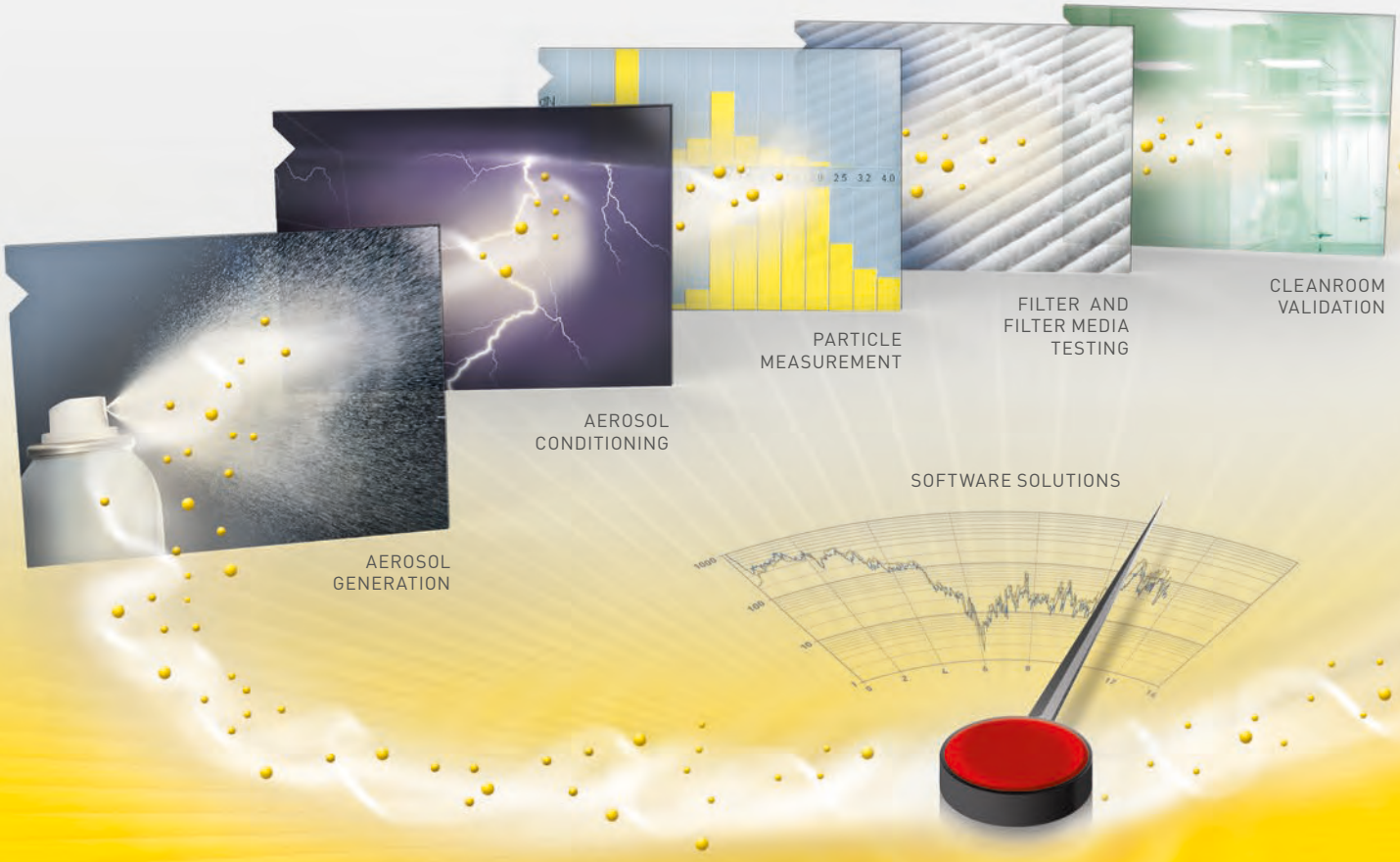
TOPAS®

Technologie-orientierte Partikel-, Analysen- und Sensortechnik



- 应用
- 创新
- 产品

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TOPAS®

Technologie-
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产品

每一个Topas产品不仅是高品质的工业化产品，它更能体现出先进技术、设计理念、专业技术及我们的高品质员工的完美结合。Topas产品种类繁多，包括标准设备和复杂的定制系统，如测试台。

Products

Topas products are more than just the output of a manufacturing process. A well-balanced mixture of advanced technology, design and technical expertise as well as our highly qualified staff ensure the high quality of Topas products. The wide range of Topas products includes both standard devices and complex tailor-made systems such as test stands.

创新

Topas成功的关键因素是我们的产品通过创新获得新的发展以及不断的进步，这个理念的贯彻至今创造了46个专利和注册商标。

Innovations

A key part of Topas' success is the new development and continuous improvement of our products through innovations. Implementing this philosophy has resulted in 46 patents and registered designs so far.

应用

在颗粒技术领域，Topas产品有着有趣的广泛应用。世界范围内来说，这些得到确认的产品已经长期应用于气溶胶技术的基础科学研究以及过滤器的发展研究。

Applications

There is a wide range of interesting applications for Topas products in the field of particle technology. Worldwide, these well established products are used for basic scientific research in the field of aerosol technology and filter development for a long period of time.

历史 *History*

2019 公司搬至Dresden, Gasanstaltstraße 47
New company building in Dresden, Gasanstaltstraße 47

2018 开发出PSL小球发生器ATM240/L和KCL气溶胶发生器ATM240/S
New development: aerosol generator ATM 240/L for Latex aerosols and ATM 240/S for KCL aerosols

2017 最新进展：TDC 584 /根据 ISO 16890-4开发的测试空气过滤器的ATEX 异丙醇消除静电仓
参与萨克森创新奖
New development: TDC 584 / ATEX IPA Conditioning Cabinet for testing Air Filters acc. to ISO 16890-4 – Participation in the saxony innovation award

2016 全球创新产品：气溶胶发生器 ATM 228
Global Innovation: Aerosol Generator ATM 228

2014 将公司在德累斯顿总部的生产面积扩大
Expansion of the production area at company location Dresden

2011 第100台定制的过滤器测试系统下线
Commissioning of the 100th customized filter testing system

2010 开发出针对HEPA/ULPA过滤器的手动扫描测试系统 AFS 152
Manual Filter Scanning Test System for HEPA/ULPA filters, AFS 152

2009 根据 EN 779 & ASHRAE 52.2改进空气过滤测试系统ALF 114
Filter Test System acc. to EN 779 & ASHRAE 52.2, ALF 114

2008 在Oskar Röder Str. 12 ,Dresden 建新工厂和办公地
根据EU LIFE项目 “UFIPOLNET”开发出超细颗粒物测试设备
New company building in Dresden, Oskar Röder Str. 12
Newly developed measuring instrument for ultrafine particulate matter within the EU LIFE-Project „UFIPOLNET“

2007 根据EN 1822, ISO 29463开发的自动HEPA/ULPA–过滤器扫描测试台AFS150
和光学颗粒物传感器PMP荣获萨克森州特别表彰“2007年萨克森州创新奖”
Topas GmbH was awarded an appreciation of the Free State of Saxony within the competition “Innovation Award of Saxony 2007” for the optical process particle sensor PMP Automated HEPA/ULPA Filter Scanning Test System acc. to EN 1822, ISO 29463

2005 研发特殊的洁净室验证设备气溶胶发生器ATM 226, 气溶胶稀释器DIL 554
Special Clean Room Validation Instrumentation Series: Aerosol Generator ATM 226, Aerosol Dilution System DIL 554

2002 开发出根据EN 779的自动过滤器测试台ALF 114
Development of an Automated Filter Scanning Test System ALF 114 according to EN

1999 获得 DIN EN ISO 9001质量管理体系认证
Certification according to DIN EN ISO 9001

1997 公司搬至Wilischstraße 1
Movement into new company building, Wilischstraße 1

1995 介绍洁净室认证的相关产品
开发出第一台用于测试吸附性过滤器的PAF 112
Introduction of products related to clean room environment validation
First filter test rig for adsorptive filter materials PAF 112

1994 凝聚式气溶胶发生器SLG系列产品荣获创新奖
Innovation Award for the Condensation Aerosol Generator series SLG

1993 凝聚式气溶胶发生器SLG系列产品荣获设计奖
Design Award for the Condensation Aerosol Generator series SLG

1991 11月公司成立于的德国德累斯顿
获得联邦研究部(TOU)的资助
November, Company founded in Germany, Dresden, Hofmannstraße 7
Federal Ministry of Research awards a grant to support highly innovative enterprises

产品一览

气溶胶发生器

多分散雾化气溶胶发生器
单分散雾化气溶胶发生器
粉尘气溶胶发生器

气溶胶辅助设备

固定稀释比的气溶胶稀释器
可调稀释比的气溶胶稀释器
高压管道采样器
切换阀
气溶胶静电中和器
气溶胶干燥器

颗粒物测量装置

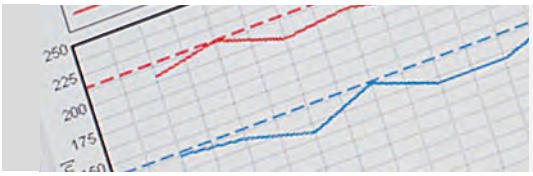
气体中颗粒测量装置
液体中颗粒测量装置

过滤器和滤料测试系统

过滤材料和滤芯
一般通风用空气过滤器
HEPA-ULPA过滤器
车厢空调过滤器
油雾分离器
真空吸尘器
液体滤芯

洁净间测试设备

气溶胶发生器
气溶胶稀释和扩散
矩形采样探头



软件

气溶胶发生器

综述

- 产生特性已知的多分散测试气溶胶，符合VDI 3491/2083和FDA标准
- 粒径分布固定
- 浓度可通过初始压力和总流速调节，可持续高度稳定
- 高度重现性
- 确定粒子数浓度

General

- *Generation of polydisperse test aerosols with known properties according to VDI 3491 and 2083 as well as FDA guidelines*
- *Constant particle size distribution*
- *Concentration is adjusted by primary pressure and consequently the total flow rate, which results in very high stability of concentration*
- *High reproducibility*
- *Defined particle number concentration*

ATM 210, ATM 210/H

- 向高压容器内输入气溶胶，最高10bar
- *Aerosol generation into pressurised vessels up to 10 bar*

ATM 220 with Diffusion Dryer DDU 570

- 简明设计
- 尤其适用于实验室和产生盐溶液、PSL小球气溶胶
- 容易更换干燥剂（硅胶）
- 应用广泛
- *Simple and straightforward design*
- *Particularly suitable for laboratories and for salt aerosols and PSL Aerosols*
- *Easy changing of the drying agent (Silica gel)*
- *Versatile usage*

应用

- 悬浮颗粒过滤器的质量检验
- 层流箱的功能检验
- 洁净室的验收测试
- 烟雾探测器的质量控制
- 测量设备的校准标定
- 流动可视化

Applications

- *Quality tests of filters for suspended matters*
- *Function tests of laminar flow boxes*
- *Acceptance measurements in clean rooms*
- *Quality control of smoke detectors*
- *Calibration of measuring devices*
- *Flow visualisation*

ATM 230

- 高浓度的气溶胶
- 适用于发生示踪气溶胶粒子

- *High concentration*
- *Suitable for generation of tracer particles*

ATM 241

- 高浓度的气溶胶输出
- 可选择不同的喷嘴来产生宽范围的气溶胶浓度
- 无间隔操作时间长

- *Very high aerosol output*
- *Broad range of concentration by selective choice of nozzles*
- *Very long operation periods*

气溶胶发生器

综述

- 产生特性已知的多分散测试气溶胶，符合VDI 3491/2083和FDA标准
- 浓度可通过喷嘴压力的调节而调整，浓度持续高度稳定，尤其是低浓度工作
- 在较宽的范围内精确调整气溶胶颗粒的产生速率
- 产生的粒子粒径分布高度稳定

General

- *Generation of polydisperse test aerosols with known properties according to VDI 3491 and 2083 as well as FDA guidelines*
- *Concentration is adjusted by differential nozzle pressure regulation, which results in very high stability of concentration especially at the lowest working range*
- *very wide working range with exactly reproducibly adjustable particle production rate*
- *very good constancy of generated particle size distribution*

ATM 222

- 外部压缩空气供应
- 不同喷嘴压力的数字化显示
- 可连续数日通过电池供电
- 远程监控接口

- *External compressed air supply*
- *Digital display of differential nozzle pressure*
- *Optional battery operation for days*
- *Interface for remote control*

ATM 228

- 内置压缩机
- 不同喷嘴压力的数字化显示
- 可选择电池供电，最多工作10h
- 远程监控接口

- *Internal brushless compressor*
- *Digital display of differential nozzle pressure*
- *Optional battery operation up to 10 h*
- *Interface for remote control*

应用

- 悬浮颗粒过滤器的质量检验
- 层流箱的功能检验
- 洁净室的验收测试
- 测量设备的校准标定
- 流动可视化

Applications

- *Quality tests of filters for suspended matters*
- *Function tests of laminar flow boxes*
- *Acceptance measurements in clean rooms*
- *Calibration of measuring devices*
- *Flow visualisation*

ATM 240/S

- 满足ISO16890的气溶胶发生器，产生10微米以下的KCL气溶胶粒子
- 气溶胶高度稳定性和可重复性
- 较低的水分输出，无需干燥

- *Production of KCL particles up to 10 µm for filter media testing according to ISO 16890*
- *Very high long term stability and reproducibility*
- *Very low moisture input, no aerosol drying required*

ATM 240/L

- 根据EN 1822标准，为HEPA 和ULPA过滤器测试产生多分散PSL气溶胶
- 较高的产生速率，长期的稳定性和可重复性
- 较低的水分输出，无需干燥

- *Production of monodisperse PSL aerosols for HEPA and ULPA filter testing according to EN 1822*
- *Very high particle production rate, long term stability and reproducibility*
- *Very low moisture input, no aerosol drying required*

气溶胶发生器

综述

- 多分散雾化气溶胶发生器
- 高浓度气溶胶输出
- SLG系列可产生粒径可调的单分散气溶胶发生器
- 可迅速调节所需颗粒粒径
- 高度稳定产生数浓度较高的颗粒

General

- *Generation of polydisperse droplet aerosols*
- *Very high aerosol output*
- *Generation of monodisperse aerosols with adjustable particle size, view series SLG*
- *Very rapid adjustment of desired particle size*
- *High particle number concentration at high constancy*

ATM 243

- 测试油雾分离器的理想仪器
- 气溶胶温度可调至130°C
- 很高的气溶胶颗粒浓度和颗粒质量流量

- *Ideal for testing of oil mist separators*
- *Adjustable aerosol temperature up to 130°C*
- *Very high aerosol particle concentration and particle mass flow*

LDG 244

- 产生大颗粒油滴（50 -100 µm）
- 方便添加大量油量
- 方便生成油谱图

- *Generation of oil droplets with a very large diameter (50 - 100 µm)*
- *Very large and easy to dose oil quantities*
- *Simulation of wall films*

应用

- 油雾分离器测试
- 流动可视化
- 用于颗粒测量装置、粒子计数器、气溶胶光谱分析仪和光度计的校准测试
- 气溶胶研究
- 吸入性研究

Applications

- *Testing of separators*
- *Flow visualisation*
- *Calibration of particle measuring instruments, particle counters, aerosol spectrometers and photometers for concentrations up to 1 g/m³* (DEHS)
- *Aerosol research*
- *Inhalation studies*

过程气溶胶监测仪PAM-510
Process Aerosol Monitor PAM 510

FCS 248

- 产生稳定的、可再生的气溶胶用于光度计校准和粒子计数器的测试
- 气溶胶浓度和流量在较宽的范围内可调
- 最多和同时连接3个待校准仪器和1个标准的参考仪器

- *Generation of a stable and reproducible test aerosol for calibration of photometers and particle counters*
- *Aerosol concentration and aerosol volume flow is adjustable in a wide range*
- *Parallel connection of up to three devices for calibration and one reference instrument*

SLG 270

- 可产生单分散气溶胶
- 气溶胶粒径可调节
- 应用专利产品绿色旁路可产生大量气溶胶
- 可选配监测平均粒径和粒子数浓度的过程气溶胶监测仪PAM-510

- *Monodisperse aerosol*
- *Adjustable particle size*
- *Generation of large particles possible by patented screen-bypass-unit*
- *Monitoring of average particle size and particle number concentration using PAM 510*

气溶胶发生器

综述

- 通过把粉末扩散到气体或空气流中形成悬浮颗粒物产生气溶胶
- 连续工作原理，高精度喂料控制
- 高度精确的喂料控制
- 设备操作方便
- 使用灵活，操作方便

General

- *Generation of aerosols by feeding a powder into a gas or air stream to form a particulate suspension*
- *Continuous working principle*
- *Highly accurate feed control with constant dosing of the powder*
- *Easy device control*
- *Flexible in use with ease of operation*

SAG 410, SAG 410/L, SAG 410/V

- 连续工作原理
- 可在较宽范围内持续稳定的供料
- 给料单元可替换
- 设备控制方便

- *Continuous working principle*
- *Wide constant dosing range over long operational periods*
- *Exchangeable dosing units*
- *Easy device control*

SAG 410/H, SAG 410/M

- SAG 410的改装升级，配置较高的储料体积

- *Modified model of SAG 410 for substantially higher dosing volumes*

SAG 410/U, SAG 410/P

- 具有专利的喂料装置
- 用于低流量粉尘气溶胶
- 适合于煤烟和氧化铝的给料和扩散
- 方便调节给料范围

- *New patented dosing mechanism*
- *for poor-flow powders*
- *Suitable for dosing and dispersing soot and aluminium oxide*
- *Easy to switch dosing range*

应用

- 分离过滤和过滤器的容尘测试
- 粉尘重量的在线测试
- 涂层和混合的过程分析

Applications

- *Separation efficiency of filters*
- *Defined dust loading of filters*
- *Analysis of coating and mixing processes*

SAG 420

- 适用于容尘量测试，符合ISO 5011
- 创新型的给料和驱动技术
- 可选配电子天平配件以达到精确质量流量控制

- *Particularly suitable for dust loading capacity tests according to ISO 5011*
- *Innovative dosing and drive technology*
- *Accurate mass flow control with weigh scale option*

SAG 440

- 符合EN 779和ASHRAE 52.2标准
- 步进马达技术的使用，获得高精度给料速度
- 适于使用含有特定比例纤维物质的粉尘
- 持续操作

- *Device in accordance with standards EN 779 and ASHRAE 52.2*
- *Highly accurate dosing with use of stepping motor technology*
- *Suitable for use with dusts containing linters*
- *Continuous operation*

气溶胶辅助设备

综述

- 气溶胶稀释恒定且具有可重现性根据VDI 3491-6
- 通过显示设备持续监测稀释比
- 无需辅助空气, 不产生废气
- 用户可自定义体积流量或者稀释比
- 寿命长、可靠性高

General

- *Constant and very reproducible dilution of aerosols according to* VDI 3491-6
- *Permanent monitoring of the dilution ratio by means of a display facility*
- *No supply and exhaust air*
- *Adaptable to customized volume flows or dilution ratios*
- *Long life and highly reliability*

DIL 540

- 自动校正
- 固定稀释比例和相关的体积流量
- 设备连用可扩展稀释比例

- *Automated re-adjustment*
- *Fixed dilution ratio and corresponding volume flow*
- *Extended dilution ratios by cascading several devices*

DIL 550

- 固定稀释比例和相关的体积流量
- 适合多种模式
- 设备连用可扩展稀释比例

- *Fixed dilution ratio and corresponding volume flow*
- *Various model versions*
- *Extended dilution ratios by cascading several devices*

DIL 554

- 固定稀释比
- 适合多种模式：用于粒子计数器，体积流量为1cf/min或者2cf/min
- 配有电池，便于移动操作
- 压力损失较低
- 不锈钢罩子，适用于洁净间使用

- *Fixed dilution ratio*
- *Model versions: for volume flow of particle counter 1 cf/min or 2 cf/min*
- *Mobile use with battery operation*
- *Low pressure loss*
- *Recommended for use in clean rooms because of stainless steel housing*

应用

- 高浓度气溶胶测量
- 过滤器分离效率的测定
- 基本气溶胶研究
- 洁净室和安全橱柜的验收控制

Applications

- *Measurement of highly concentrated aerosols*
- *Determination of separation efficiency of filters*
- *Acceptance control of clean rooms and safety cabinets*
- *Aerosol research*

DDS 560

- 稀释比例可调
- 数据可视化, 显示稀释比例和当前体积流量
- 适用于粒子计数器, 体积流量控制在0.5 to 3 l/min

- *Adjustable dilution ratio*
- *Screen display for data showing adjusted dilution ratio and current volume flow*
- *For use with Particle counters with a volume flow of 0.5 to 3 l/min*

VDS 562

- 流量可调，28,3 to 100 l/min
- 稀释比可调，（可高达1:100000）
- 主动稀释，几乎没有压降
- 通过远程控制进行调节

- *Variable particle counter flow rate (28,3 to 100 l/min)*
- *Variable very high single-stage dilution (up to 1:100.000)*
- *Active dilution, nearly no pressure drop*
- *Automatic adjustment with optional remote control*

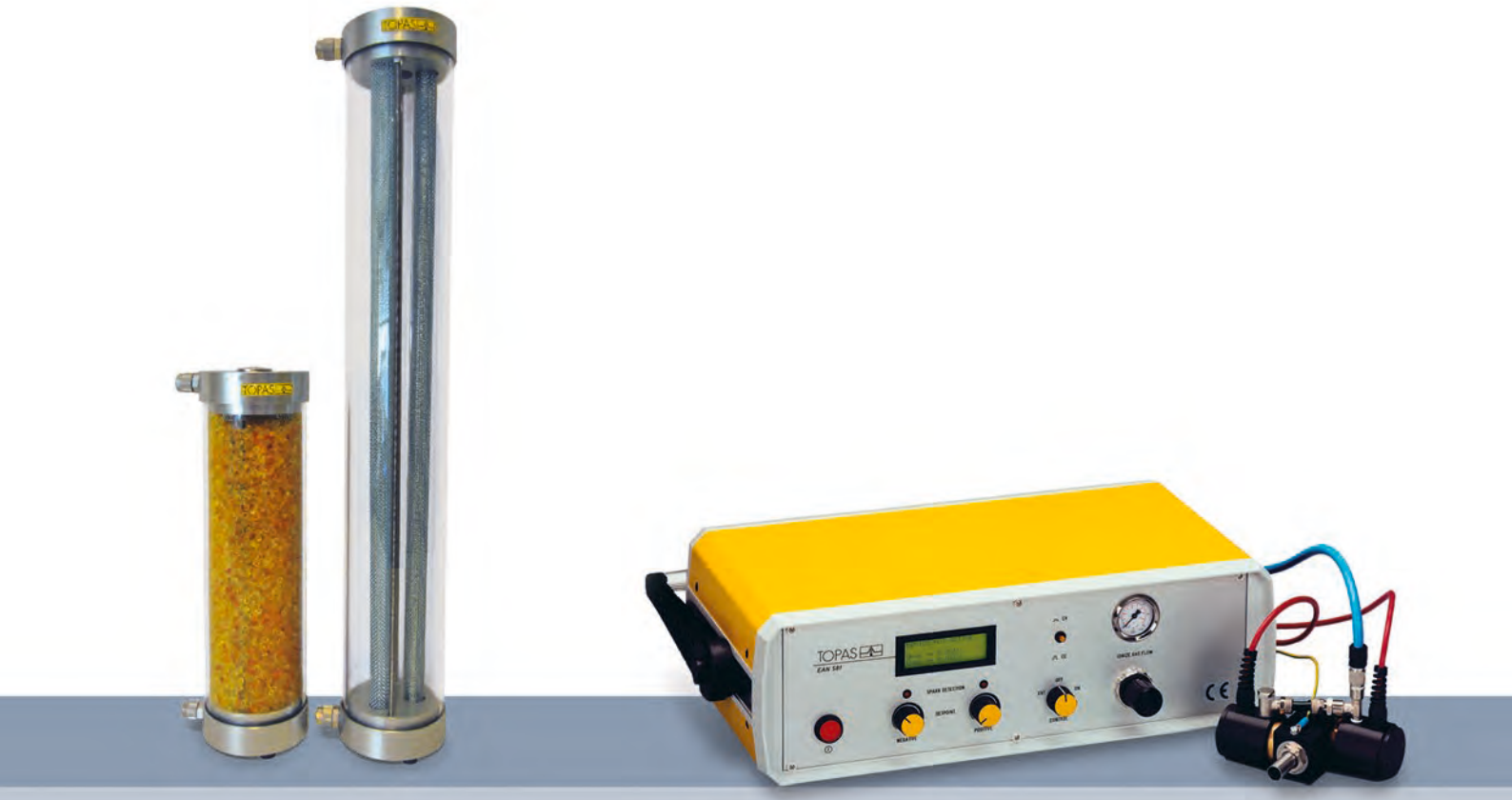
气溶胶辅助设备

综述

- 采样装置和样品处理装置（包括干燥、静电消除）以及切换阀

General

- *Equipment for sampling and sample conditioning (drying and neutralisation of test aerosols) and switching*



DDU 570

- 气溶胶扩散干燥器，用于干燥气溶胶中的水分
- 几乎没有颗粒的损失

- *Diffusion dryer for drying of aqueous aerosols*
- *Very low particle loss*

EAN 581

- 静电气溶胶中和器， 离子产生可控
- 正、负离子源独立调节
- 无放射性源

- *Electrostatic aerosol neutralisation with controllable generation of ions*
- *Separate adjustment of both positive and negative source of ions*
- *No radioactive source*

应用

- 过滤效率测定
- 高浓度气溶胶检测
- 基本气溶胶研究

Applications

- *Determination of filtration efficiency*
- *Measurement of highly concentrated aerosols*
- *Aerosol research*

SYS 520, SYS 520/P, SYS 520/H, SYS 520/S

- 用于在不同采样点之间切换的仪器
- 防止样品污染
- 软管压缩阀可靠性高
- 有几个可用的接口

- *Instrument for switching between different sampling points*
- *Purging routine prevents sample falsification*
- *High reliability with hose compression valves*
- *Several interfaces available*

SYS 525

- 在高压管线里采样装置
- 等速和等轴采样
- 设备可显示监测结果， 采样速度可调

- *Sampling unit for particle measurements at pressure gas lines (up to 8 bar)*
- *Isokinetic and isoaxial sampling*
- *Possibility of monitoring and re-adjusting of isokinetics*

颗粒物测量装置

综述

- 测试粒子的粒子和数量浓度
- 高分辨率测量
- 光学测量原理
- 用户界面友好的软件

General

- *Determination of particle size distribution and number concentration*
- *High-resolution measurements*
- *Optical measurement method*
- *User-friendly software*

LAP 323

- 气溶胶激光粒径谱仪
- 高分辨率
- 应用两个波长的光源，精度高
- 测试浓度范围较宽
- 简洁设计

- Particle size spectrometer for aerosols
- Very high particle size resolution
- Use of two laser wave lengths for very high classification accuracy
- Wide concentration measuring range
- Compact design

FAS 362

- 液体粒子计数器
- 灵活样品喂料单元
- 宽浓度范围
- 测试结果与粒子材料几乎无关

- *Particle counter for fluids*
- *Flexible sample feed unit*
- *Wide concentration measuring range*
- *Measuring results almost independent from particle material*

应用

- 颗粒粒径测量
- 环境和药物气溶胶测量
- 过滤器和分离器的分离效率测量
- 质量控制过程监控
- 窜气气溶胶测试

Applications

- *Particle size measurement*
- *Measurement of environmental and pharmaceutical aerosols*
- *Fractional efficiency measurement for filters and separators*
- *Monitoring of processes for quality control*
- *Measurement of blow-by aerosols*

PAP 610

- 用于台架现场的窜气气溶胶过程监测气溶胶光度计
- 利用两个波段来获取额外粒 径信息
- 无浓缩效果和无镜面污染

- *Process-Aerosol Photometer for in situ concentration measurement of blow-by aerosols*
- *Additional particle size information using two measurement wavelengths*
- *No condensation effects and no window contamination*

PAP 612

- 双波段（在线消光和光散射原 理，同时工作）气溶胶光度计
- 测试管道系统中的漏液（如涌出的油，壁膜或冷凝）

- *Combined in-line extinction and scattered-light photometer with double-running test sections and two wavelengths for characterisation of blow-by aerosols*
- *Detection of fluids in pipe systems for gas transport (e.g. gushes of oil, wall film or condensation)*

过滤器和滤料测试系统

综述

- 滤料的性能测试
- 测试通用的性能参数

General

- *Characterization of filter media*
- *Determination of customized performance features*

PSM 165

孔径测试仪

Pore Size Meter

- 滤料结构特性测试，测量滤料孔径
- 测定最小冒泡压力、孔径分布、平均流孔径以及气体渗透率
- 可适用于不同尺寸和材料的样品

- *Pore size measurements for structural characterization of filter media*
- *Determination of bubble point, pore size distribution, mean flow, pore size and gas-permeability*
- *Adapters for different sample dimensions and materials*

MBP 116

滤料测试系统

Filter Media Test System

- 容尘量测试台，用于平板滤料质量测试
- 测试有效性、压差的可靠性测试、效率以及容尘能力
- 简单坚稳设计，减少人工操作

- *Dust loading test rig for quality testing of flat sheet filter media*
- *Efficient, reliable testing of differential pressure, arrestance and dust holding capacity*
- *Simple robust design, cost-saving manual operation*

应用

- 过滤介质的开发与设计
- 质量检测
- 滤料和过滤器的进厂检验

Applications

- *Development and design of filter media*
- *Quality testing*
- *Incoming goods inspection*

AFC 131

可清灰过滤介质的过滤测试系统

Cleanable Filter Media Test System

- 适用于可清灰过滤介质的测试，（根据VDI3962）
- 严格按照ISO 16890测试过滤介质
- 过滤材料和小型滤芯的常规测试
- 压差测试、分级效率、容尘量测试

- *For cleanable filter media according to VDI 3926*
- *For testing of filter media in close accordance to ISO 16890*
- *Customized testing of filter media and small filter elements*
- *Testing of differential pressure, arrestance, fractional efficiency and dust holding capacity*

AFC 133

可清灰过滤介质的过滤测试系统

Cleanable Filter Media Test System

- 可清灰过滤介质的测试试验系统，依据ISO 11057和VDI 3926
- 过滤器滤料分析，包括压差特征、容尘量以及平均效率
- 可在任意面流速测试

- *Test rig for cleanable air filter media acc. to ISO 11057 and VDI 3926*
- *Analysis of filter media detailing differential pressure characteristics, arrestance and dust holding capacity*
- *Testing at arbitrary face velocities*

过滤器和滤料测试系统

综述

- 滤料的性能测试
- 测试通用的性能参数

General

- *Characterization of filter media*
- *Determination of customized performance features*

IPA测试放电室TDC585
IPA test discharge chamber TDC 585

AFC 132

通用滤料测试系统
Universal Filter Media Test System

- 严格依照ISO16890进行测试
- 滤料和小型滤芯的常规测试
- 常规测试，包括压差特征、 容尘量以及平均效率

- *For testing of filter media in close accordance to ISO 16890*
- *Customized testing of filter media and small filter elements*
- *Testing of differential pressure, arrestance, fractional efficiency and dust holding capacity*

应用

- 滤料和过滤器的进厂检验
- 小型滤芯的生产过程中的质量监控

Applications

- *incoming goods inspection*
- *quality control of small filter elements during production*

AFC 132 QC HEPA

HEPA过滤原件质量控制测试系统，根据标准EN1822-4 附录E

HEPA Filter Element Quality Control Test System acc. to EN1822-4 Appendix E

- 快速测试（30s/个）
- 自由配置，测定过滤器的效率和压差
- 自定义的夹具便于更换，适用于不同尺寸的HEPA滤芯
- 对漏点有极高的探测灵敏度
- 每个样品消耗的气溶胶量少
- 高度自动化
- 测试数据可溯源

- *fast results (30s/filter)*
- *Free configuration of the target filter efficiency + differential pressure*
- *Customized filter adapter for different small HEPA filter elements, easy to change*
- *Significantly higher detection sensitivity to the smallest leakages*
- *Filters much less loaded by test aerosol*
- *High degree of automation*
- *Retraceable test data handling*

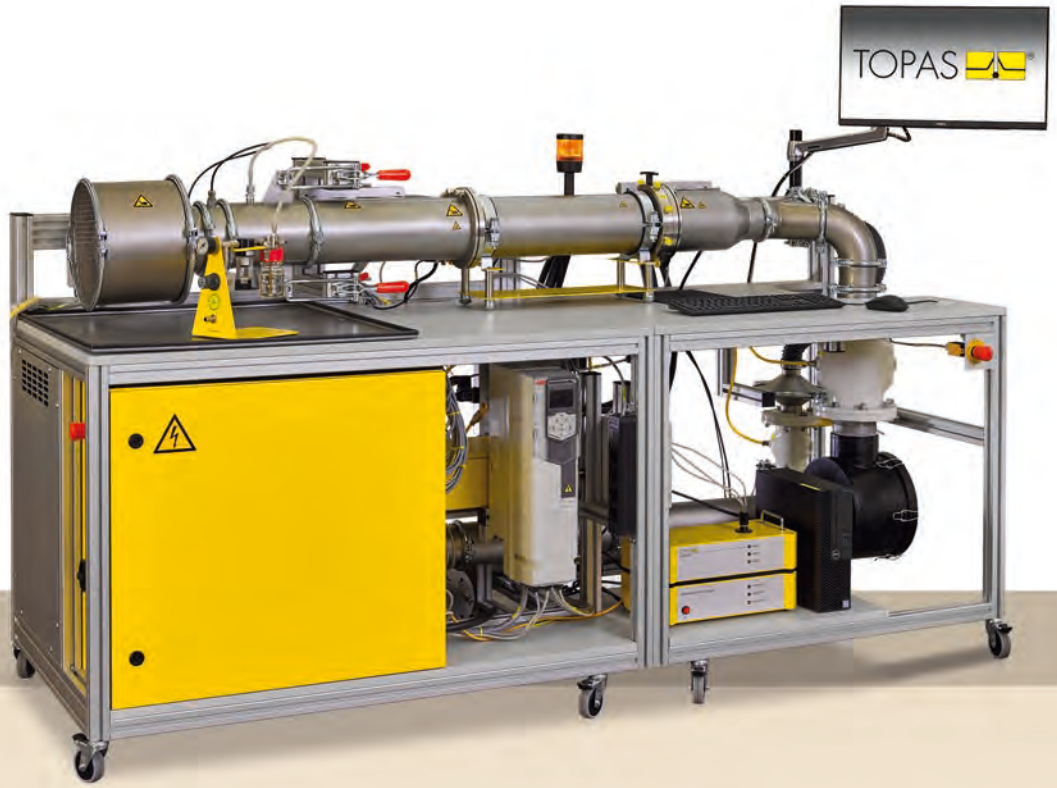
过滤器和滤料测试系统

综述

- 过滤介质、过滤元件和传感器的特性描述
- 特定的性能检测

General

- *Characterization of filter media, filter elements and sensors*
- *Determination of customized performance features*



AFC 135

气溶胶传感器测试系统

Aerosol Sensor Test System

- 同时测试多个PM传感器
- 在不同的传感器横流速度下，在很宽的浓度范围内可能存在不同类型的气溶胶
- 传感器的老化模拟

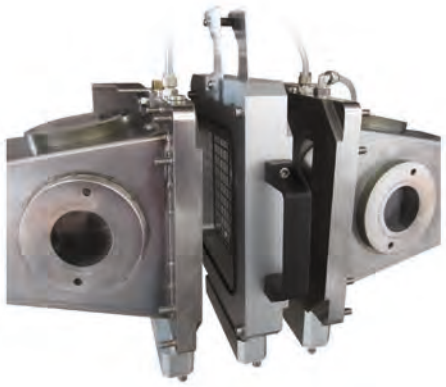
- *Simultaneous testing of multiple PM sensors*
- *Different types of aerosols possible in a very wide concentration range at different sensor cross flow velocity*
- *Simulation of sensor aging*

应用

- 生产过程中的质量监控
- 研发和生产

Applications

- *Quality control during production*
- *Research and development*



CFT 147

烧结过滤器测试系统

Coalescence Filter Tester

- 发动机、石蜡和压缩机油的过滤包的测试
- 气溶胶质量流量的变化并且测试空气温度高达120°C
- 运行过程中重量效率的测试
- 油可自动循环利用和填充，供较长时间的测试

- *Testing of filter packages with engine, paraffin or compressor oil*
- *Variation of aerosol mass flow and test air temperature up to 120 °C*
- *Measurement of gravimetric efficiency at running test*
- *Long-term measurements by automatic oil recirculation and refill*

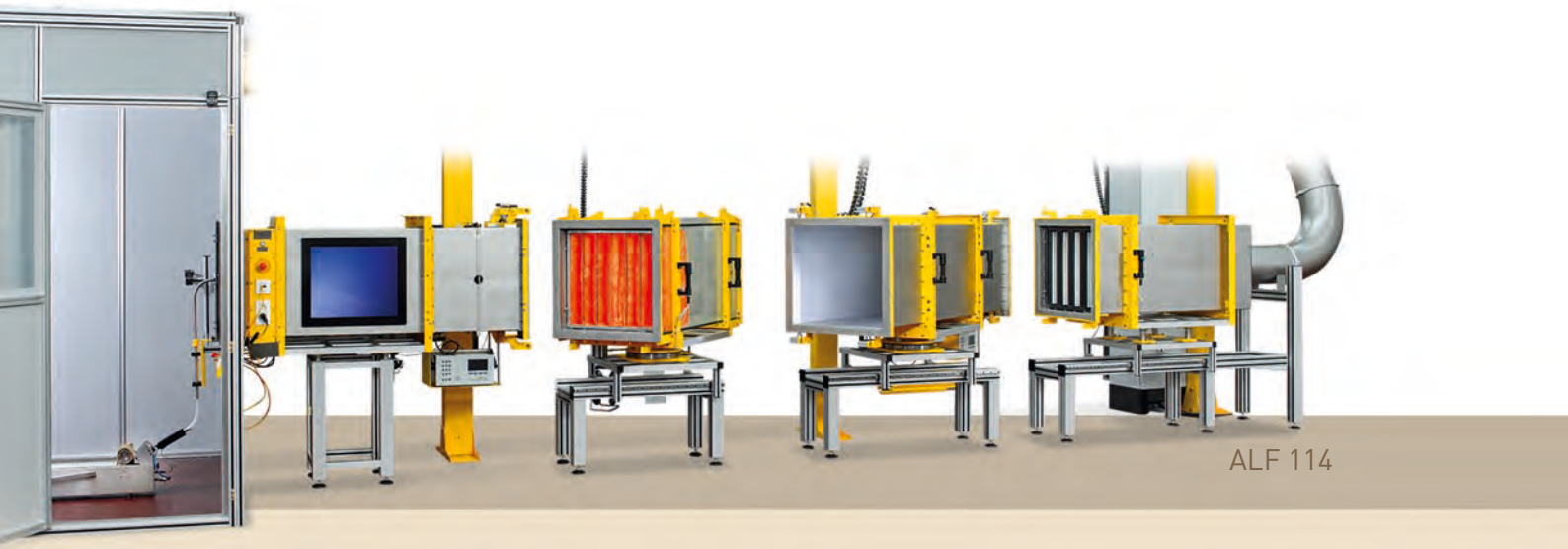
过滤器和滤料测试系统

综述

- 适用于全面一般通风空气过滤器测试，符合ISO16890、EN 779和ASHRAE 52.2标准（MERV的分级）
- 粗粉尘过滤器和细粒子过滤器的分级
- 通用过滤器支撑系统，适用于袋式和盒式过滤器、滤筒以及平面滤材
- 可旋转和移动的管道系统，操作方便，
- 用于EUROVENT分级的操作软件

General

- *Tests of particulate air filters for general ventilation according to ISO 16890, EN 779 and ASHRAE 52.2 (MERV rating)*
- *Classifying of coarse dust filters and fine particle filters*
- *Universal filter holding system for pocket and cassette filters, filter cartridges, gas turbine filters and flat media*
- *Great ease of operation due to rotatable and movable duct sections*
- *Software for EUROVENT energy rating*



ALF 114

ALF 114

一般通风过滤器测试系统

General Air Filter Test System

- 过滤器样品夹具适用于袋式、盒式过滤器、滤筒和平面板型过滤器
- 粗颗粒和细颗粒物过滤器的分级测试
- 用于EUROVENT分级的操作软件
- 可旋转和移动的管道系统，操作方便，

- *Filter holding system for pocket and cassette filters, filter cartridges and flat media*
- *Classifying of coarse dust filters and fine particle filters*
- *Software for EUROVENT energy rating*
- *Easy to handle due to rotatable and movable duct sections*

可旋转过滤器夹具

rotable filter holder

应用

- 用于过滤器质量测试和分类
- 用于过滤器部件研究项目

Applications

- *Quality testing and classification of filters*
- *Research projects for filter elements*

ALF 114 - 可选配过滤器的称重
Filter weighing option

盒状过滤器的夹具
Cartridge Filter Holder

IPA测试除静电仓
IPA Discharge Cabinet

TDC 584 /ATEX

IPA测试仓
IPA Test Discharge Cabinet

- 符合ISO-16890的检测标准（根据ISO-16890标准，ALF 114一般通风过滤器测试系统进行的分离测试
- 袋式和盒式过滤器、滤袋和平面滤材的静电中和
- 由于系统的吸、冲洗一体化，操作安全可靠

- *Conditioning of air filters according to ISO 16890-4 (for subsequent testing of the mechanical separation behavior with the General Air Filter Test System ALF 114 according ISO 16890)*
- *Electrical neutralization of bag- and cartridge filters, filter bags and flat media*
- *Safe handling due to integrated suction and flushing of the cabinet*

过滤器和滤料测试系统

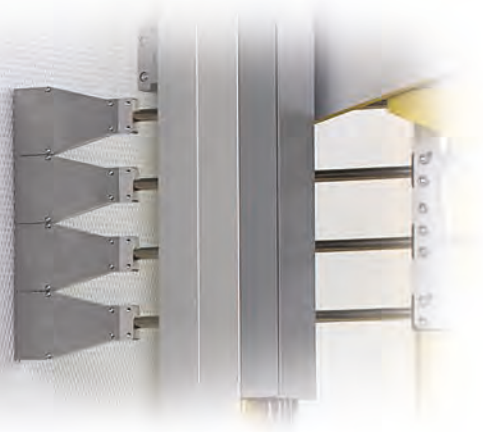
综述

- HEPA和ULPA过滤器和滤料的测试
- 自动检漏测试
- 压差测试
- 最具穿透性粒径(MPPS)和局部过滤效率测定
- 适用于不同尺寸的过滤材料

General

- *Testing of HEPA and ULPA filters and filter media*
- *Automated leak detection*
- *Differential pressure test*
- *Determination of integral and local efficiency at most penetrating particle size (MPPS)*
- *Easy handling of different filter dimensions*

AFS 150



AFS 150, AFS 152, AFS 153

AFS 150 HEPA/ULPA过滤器的自动扫描系统

AFS 152 手动过滤器扫描系统

- 根据EN 1822-4（局部过滤效率），EN 1822-5（滤芯的整体过滤效率），和ISO 29463对高效过滤器进行测试
- 配置AFS 153，可根据EN 1822-3进行过滤器滤料测试和MPPS点测定，
- HEPA和ULPA过滤器的分级
- 能测试不同尺寸的高效过滤器，最大1220 x 1830 mm
- 型号：
  - AFS 150自动扫描系统带过滤器夹具系统和满足不同过滤器尺寸的适配器
  - AFS 152 手动过滤器扫描系统

应用

- 过滤器的质量检测和分类
- 滤芯的研发测试

Applications

- *Quality testing and classification of filters*
- *Research projects for filter elements*

AFS 150, AFS 152, AFS 153

AFS 150 Automated HEPA/ULPA Filter Scanning Test System
AFS 152 Manual HEPA/ULPA Filter Scanning Test System

- *Tests of filters for high efficiency Air Filters according to EN 1822-4 (local efficiency), EN 1822–5 (integral efficiency of filter elements), ISO 29463*
- *Optional filter media testing and MPPS determination according to EN 1822-3 with AFS 153*
- *Classification of HEPA and ULPA filters*
- *For varying filter dimensions up to 1220 x 1830 mm*
- *Model design: - AFS 150 for automatic filter scanning with cabinet filter holder and adapter plates for user-specific filter dimensions*
  - AFS 152 for manual filter scanning

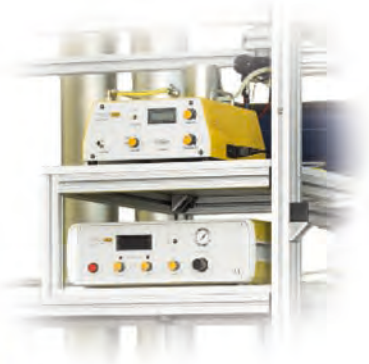
过滤器和滤料测试系统

综述

- 过滤器部件性能测试包括：
  - 压差特征
  - 容尘量
  - 分级过滤效率
  - 动态气体吸附测试
- 使用计算机自动控制测试过程，且Topas控制软件用户友好
  - 有独立的PAF 111 和 PAF 112或者联合的PAF 113
  - 模块化结构
  - 自定义测试程序

General

- *Test of filter elements regarding:*
  - *Differential pressure characteristics*
  - *Dust holding capacity*
  - *Fractional efficiency*
  - *Dynamic gas adsorption*
- *Automated testing procedures using PC and user-friendly control software*
  - *Separate test system PAF 111 and PAF 112 or combined solution PAF 113*
  - *Modular design*
  - *Custom test procedures*



PAF 111

车厢空气过滤器测试系统(微粒过滤)

Cabin Air Filter Test System (Particulate Filtration)

- 根据DIN 71460-1 (ISO 11155-1)对车厢空气过滤器进行粉尘过滤试验
- 容尘量测试
- 可对平面过滤材料进行测试

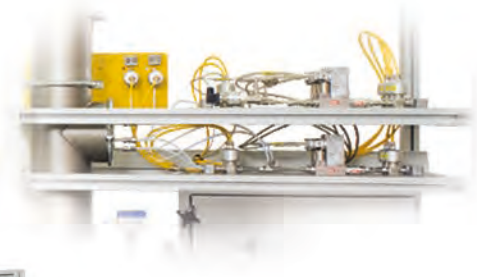
- *Test of cabin air filters according to DIN 71460-1 (ISO 11155-1) for separation of dust particles*
- *Dust loading tests*
- *Tests of filter media possible*

应用

- 质量控制
- 滤芯研发测试

Applications

- *Quality testing*
- *Research projects for filter elements*



PAF 112

车厢空气过滤器测试系统（气体吸附）

Cabin Air Filter Test System (Gas Adsorption)

- 根据ISO 11155-2（DIN 71460-2）进行的车厢空气过滤器气体分离试验
- 气体加载测试
- 可对平面过滤材料进行测试

- *Test of cabin air filters according to ISO 11155-2 (DIN 71460-2) for separation of gaseous elements*
- *Gas loading tests*
- *Tests of planar filter media possible*

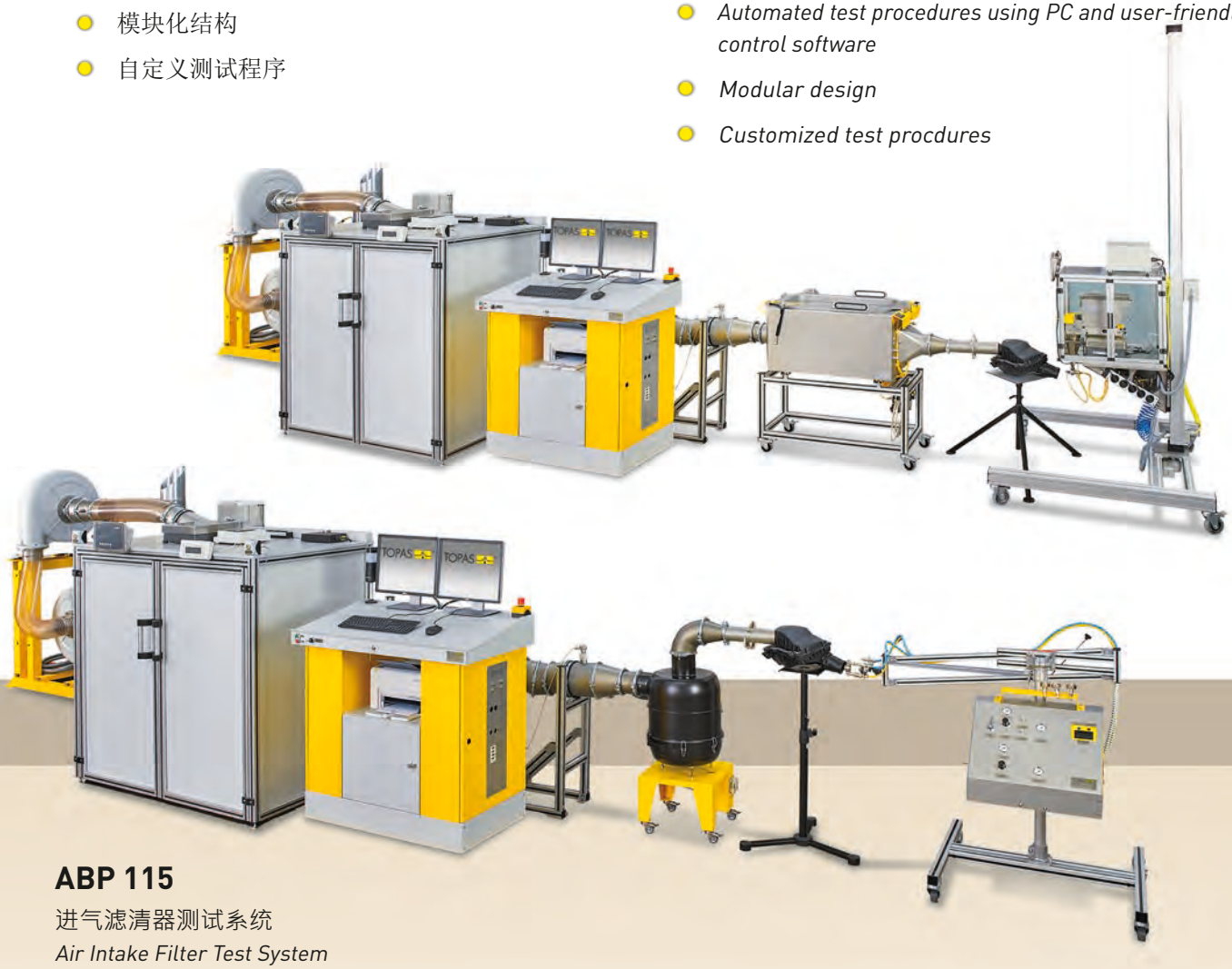
过滤器和滤料测试系统

综述

- 密封过滤器元件的测试，关于压差、容尘量和总体过滤效率的密封滤芯的测试
- 自动化测试程序使用PC和用户友好的控制软件
- 模块化结构
- 自定义测试程序

General

- *Testing of encased filter elements regarding differential pressure drop, dust holding capacity and total separation efficiency*
- *Automated test procedures using PC and user-friendly control software*
- *Modular design*
- *Customized test procdures*



ABP 115

进气滤清器测试系统

Air Intake Filter Test System

- 测试空气滤清器入口和发动机进气管过滤器，符合ISO 5011标准
- 广泛的应用范围从普通轿车到卡车和工业过滤器
- 采用精确的压力和流量测量
- 粉尘质量流量控制
- 可选项： 水喷射系统和水分离器，评价滤清器的水分离器性能
- 自动化水平较高

- *Tests of inlet air cleaners and motor intake filters according to ISO 5011*
- *Wide range of applications from passengers to truck and industrial filters*
- *Use of precise pressure- and flow rate measurement*
- *Mass flow control of dust dosing*
- *Additional option: Water injection system and water separator for water spray loading*
- *High level of automation*

平板式过滤器的夹具

Flat sheet absolute filter holder

应用

- 过滤器的质量性能测试和分类分级
- 过滤元件的研发测试

Applications

- *Quality testing and classification of filters*
- *Research projects for filter elements*

FST 144

流场扫描测试系统

Flow Scan Tester

- 气流样品中气流测试
- 可扩展到不同的几何图形
- 高精度的分辨率
- 高水平的自动化和定制设计
- 安全预防措施完善

- *Measurement of flow profiles in air-flowed samples*
- *Scalable to different geometries*
- *High precision spatial resolution*
- *High level of automation and customized protocol design*
- *Extensive safety precautions*

过滤器和滤料测试系统

综述

- 过滤器部件测试包括、 压差特征及其他重要参数
- 使用计算机自动控制测试过程， 且Topas控制软件用户友好

General

- *Test of filter elements regarding differential pressure characteristics, filtration efficiency as well as further essential parameters*
- *Automated testing procedures using PC and user-friendly control software*

SPT 140

油雾分离器测试系统

Oil Mist Separator Test System

- 测试油雾分离器的压力降、计重效率、 分级计数效率以及压力控制特征
- 曲轴箱通风系统的优化
- 应用导向型的加热控制部件

- *Tests of oil mist separators regarding pressure drop, gravimetric filtration efficiency, fractional efficiency and pressure control characteristics*
- *For optimisation of crankcase ventilation systems*
- *Ensuring application-oriented conditions due to controlled heating of the relevant components*

GMS 141

重量测试系统

Gravimetric Measurement System

- 绝对过滤单元，用于引擎油雾分离器的计重 过滤效率测试
- 使用滤筒或平面滤料
- 可加热绝对过滤器箱，避免冷凝
- 方便快捷

- *Absolute filter unit for measurement of gravimetric filtration efficiency of oil mist separators for combustion engines*
- *Use of filter cartridges or flat sheet filter media*
- *Heatable absolute filter box in order to avoid condensation*
- *Only little time required*

应用

- 在发动机台架上进行油雾分离器的测试
- 对油雾分离器和内燃机引擎的开发和研究

Applications

- *Testing of oil mist separators at engine test bench*
- *Development and research projects for oil mist separators and combustion engines*

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BBT 143

Blow-by测试系统
Blow-by Test System

- 根据ISO 17536-3标准，在线监测Blow-by中气溶胶的浓度，省时且可测试浓度范围宽
- 结合光学和重量测试方法
- 可对测试气溶胶进行加热(防止凝结)
- 适于在实验室、引擎和切斜测试台和室外操作，
- 可连接到发动机台架上

- *Test rig for extreme timesaving on-line determination of the oil mass concentration and oil mass flow in blow-by aerosols in a wide concentration range according ISO 17536-3*
- *Combined gravimetric and photometric particle measurement*
- *Heating of the aerosol-promoting components (prevent condensation)*
- *Mobile suitable for the use at laboratory, engine and tilt test stands*
- *Control implementation to engine test stands (optional)*

PAP 610

气溶胶光度计
Process Aerosol Photometer

PAP 612

气溶胶光度计
Process Aerosol Photometer

过滤器和滤料测试系统

综述

- 依据标准EN 60312进行自动测试，
  - 在置信区间的范围内进行过滤效率的测试
  - 排放测试，确定平均结果和置信限

General

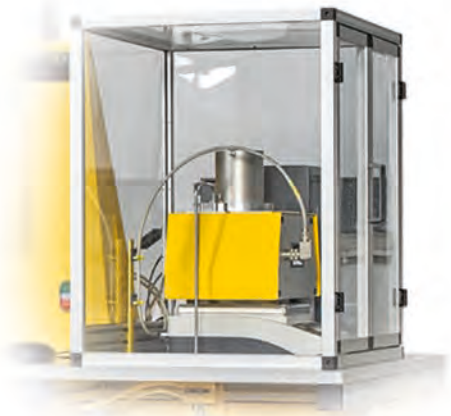
- *Automatic test procedures in accordance with standard EN 60312 for*
  - *Filtration efficiency test with determination of a confidence limit*
  - *Emission test with determination of the average result and confidence limit*

应用

- 真空吸尘器的质量控制

Applications

- *Qualitiy control of vacuum cleaner*



VCT 121

真空吸尘器过滤测试系统

Vacuum Cleaner Filtration Test System

- 根据EN 60312，对家用或小型企业用真空吸尘器进行测试
- 根据欧盟委员会委托法规(EU)第665 / 2013号文件，即“吸尘器的能效标识“，进行的粉尘再排放测试；
- 手动控制、校准程序和用户自定义测试
- 用户可选择数据结果输出模式

- *Tests on vacuum cleaners for household or small business use according to EN 60312*
- *Dust-Reemission tests according to Commission Delegated Regulation (EU) No. 665 / 2013; known as ‘Energy Label for Vacuum Cleaners’*
- *Manual control for service, calibration procedures and user defined tests*
- *Log printout with user selected representation*

综述

- 根据ISO 4020/6.3对液体过滤器进行自动化测试

应用

- 柴油过滤器压降的测试和评价

General

- *Automated testing of liquid filters according ISO 4020/6.3*

Applications

- *Evaluation of pressure drop of diesel filters*

LDP 190

柴油过滤器差压测试系统

Diesel Filter Differential Pressure Test System

- 根据ISO 4020/6.3，对液体过滤器进行自动化测试
- 流量范围宽，测试过滤器温度控制，可达80°C
- 样品自动送风

- *Automated testing of diesel liquid filters according ISO 4020/6.3*
- *Wide flow range, test medium is temperature-controlled up to 80°C*
- *Automatic air ventilation of the sample*

洁净间测试设备

综述

- 用于洁净室设备和手术室的测试、验收控制、监控的仪器
- 包括气溶胶的产生、稀释和分布，以及取样和粒度测量

General

- *Instruments for testing, acceptance control, monitoring of clean room facilities and operating theatres*
- *Generation, dilution and distribution of test aerosols, also sampling and particle size measurement*

ATM 228

- 根据标准ISO 14644-3，产生高度稳定分布的特定粒径范围的多分散气溶胶
- 颗粒物的产生量可调
- 外部控制、并且可选配电池

- *Aerosol Generator of high stability polydisperse aerosols in the size range for filters acc. to ISO 14644-3*
- *Adjustable particle production rate*
- *external control and optional battery operation*

DIL 554

- 气溶胶稀释系统
- 在28.3l/min，56.6l/min或者50l/min时能够维持稳定稀释比1:100或者1:10
- 持续光学原理监测流量

- *Aerosol dilution system*
- *Steady, certified dilution ratio of 1:100 or 1:10 at 28.3 l/min, 50 l/min or 56.6 l/min respectively*
- *Permanent optical monitoring of the sample flow rate*

SYS 529

- 矩形的采样探头对在过滤器部件边缘精细扫描
- 可选28,3 or 56,6 l/min
- 可选配带过滤器的帽子，用于零点测试

- *rectangular shape for scanning filter corners*
- *available for 28,3 or 56,6 l/min*
- *optional cap with filter for zero count test*

应用

- 在各种行业中用于产品验收和质量控制，
  如制药、半导体、医疗、航天工业和食品工业

Applications

- *Validation and acceptance control for use in various industries, including: Pharmaceutical, semiconductor, medical, the aerospace industry and food industry*

ADD 536

- 符合SWKI标准 99-3和DIN 1946-4标准的气溶胶分布和稀释系统
- 持续监测源数据
- 稀释比可调以适合不同粒子计数器 的特性

- *Aerosol distribution and dilution systems according to standards SWKI guideline 99-3 and DIN 1946-4*
- *Permanent monitoring of the source values (particles/time)*
- *Adjustable dilution ratios to suit the specification of the particle counter*

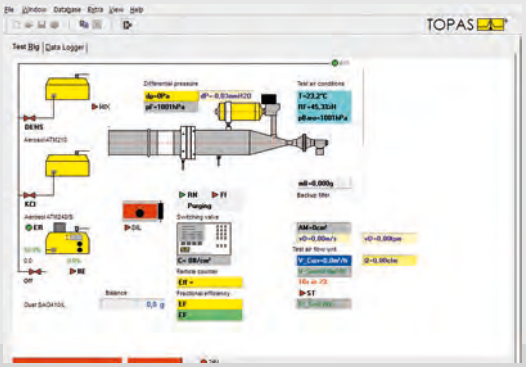
软件

综述

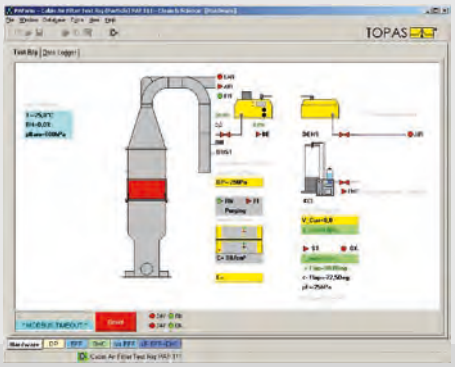
- 可方便控制Topas设备和测试台
- 自动数据收集和评估
- 模块化设计
- 易于用户登录操作和测量结果评估
- 简单数据输出，用于存储数据的进一步过程分析
- 依照行业标准对结果进行在线自动评估和计算
- 三国语言可用：德语、英语、法语

General

- *Convenient control of Topas devices and test systems*
- *Automated data acquisition and evaluation*
- *Modular design*
- *Easy to use with customized logging and evaluation of measured results*
- *Simple data export for future processing of acquired data*
- *Automated evaluation, calculation of results in-line with industry standards*
- *Bilingual available: German, English*



AFCWin



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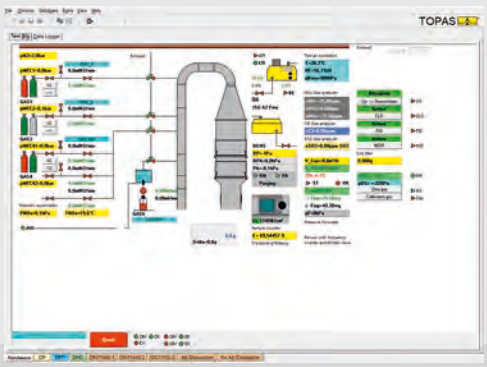
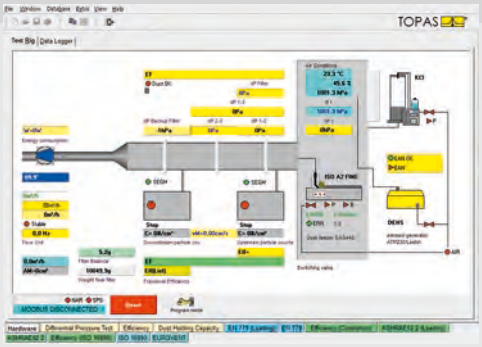


PAFWin

PAFWin

- 用于过滤器测试系统控制和数据收集的软件
- 对于不同测试系统和测试过程有相应的版本
- 根据各自的标准可自动进行用户自定义的计算和分析

- *Complex control and data acquisition software for filter test systems*
- *Several versions for different test systems and test procedures*
- *Automated and customised calculations and analysis according to respective standards*



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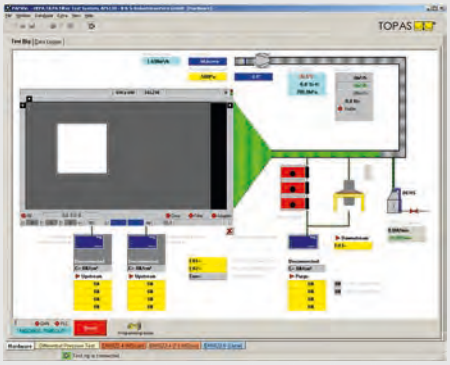


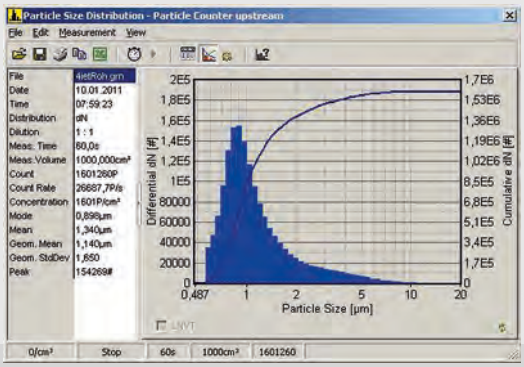
AFSWin

进一步应用

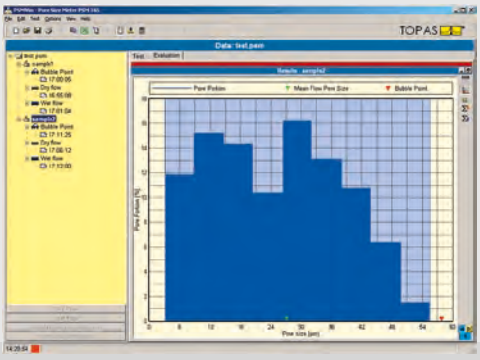
- **PASWin** 用于气体和液体中的颗粒测量控制，如：气溶胶激光粒径谱仪LAP和液体颗粒计数器FAS
- **PSMWin** 用于滤料孔径测定仪PSM中对 孔径特性的测定
- **USSWin** 用于自动US沉降速度计USS 791中对研磨剂颗粒粒径分布的测定

Further Applications

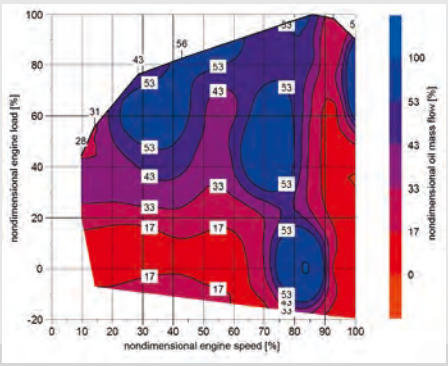
- ***PASWin*** *for particle measurement in gases and liquids, e.g. using the Laser Aerosol Particle Size Instruments LAP or the Particle Counter for Liquids, FAS*
- ***PSMWin*** *for determination of pore size characteristics using the Pore Size Meter PSM*
- ***USSWin*** *for determination of the particle size distribution of abrasives with the Automated US-Sedimentometer USS 791*



PASWin



PSMWin

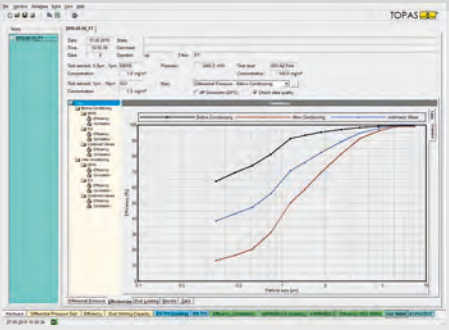


BBTWin

BBTWin

- BBT 143测试系统的控制和数据分析
- 重量法的标定和测试
- 发动机油谱图的输出

- *Control of all included BBT143 instruments including data acquisition*
- *supports gravimetric calibration of optical measurements*
- *Result presentation as an engine Map*



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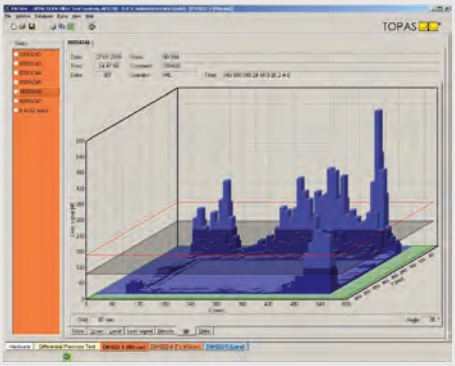
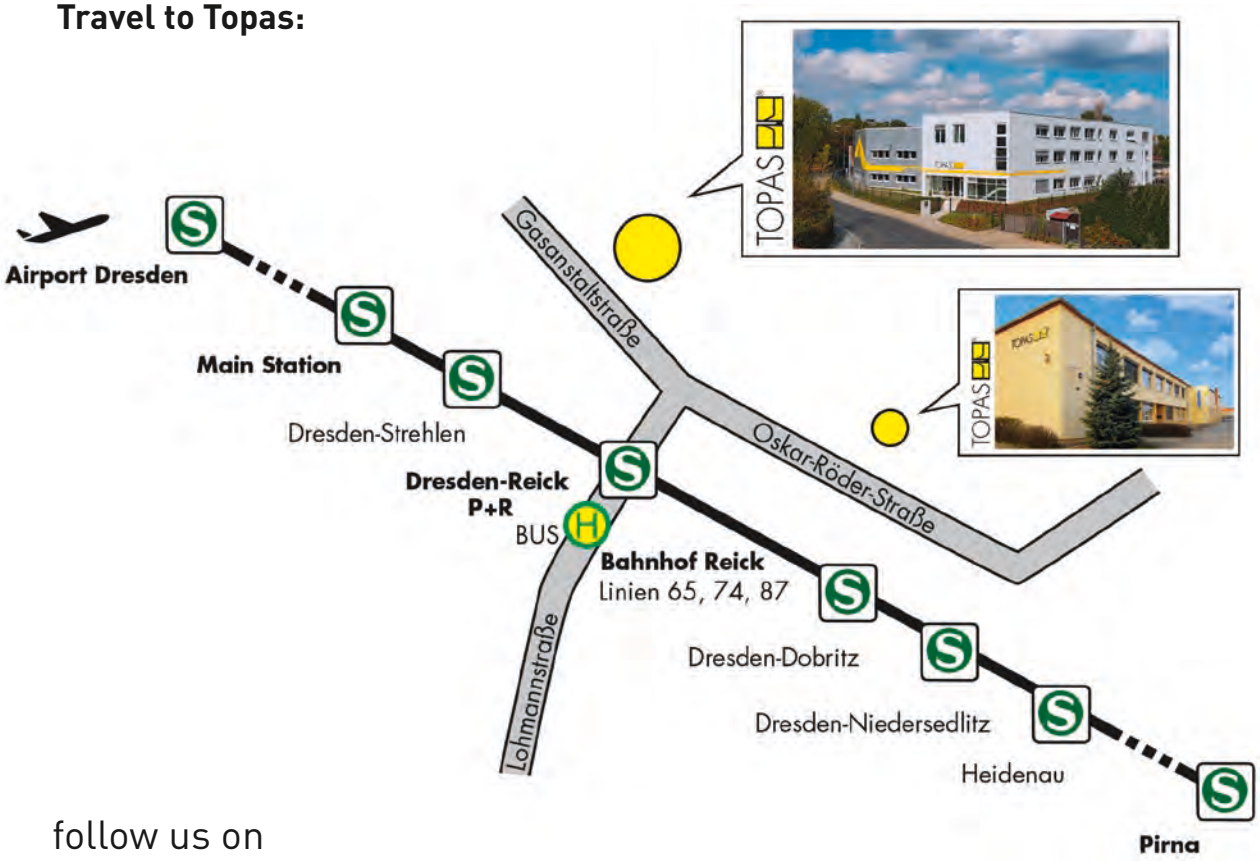


AFSWin

产品登记

Travel to Topas:



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contact Emails:

- 一般联系人， 发票， 校准: office@topas-gmbh.de
- 用途，报价: marketing@topas-gmbh.de
- 运输: logistics@topas-gmbh.de
- 软件: software@topas-gmbh.de

Contact

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Turkey
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Vietnam

local contact:

Topas GmbH
Technologie-orientierte
Partikel-, Analysen- und Sensortechnik
Gasanstaltstraße 47 · D-01237 Dresden

Phone + 49 (351) 21 66 43 - 0
Fax + 49 (351) 21 66 43 55
E-mail office@topas-gmbh.de
Internet www.topas-gmbh.de

TOPAS-GMBH.DE
PARTICLE UNDER CONTROL