

Main Topics



Aerosols & Particles

- environmental relevance
- occupational safety
- particle synthesis

Air Quality & Gas Treatment

- filtration and sorption
- process development
- CFD simulations

Circular Economy & Water Technology

- mechanical & thermal processes
- reactive & oxidative processes
- process development

Analysis & Measurement Techniques

- trace analysis
- development of instruments
- process digitalisation



Adsorptive Materials and Filter Media Tests with Toxic and Nontoxic Gases

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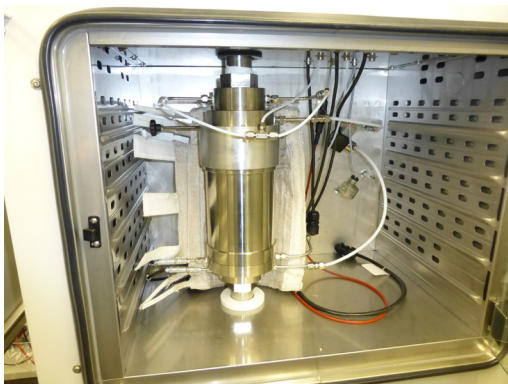
Adsorptive Materials and Filter Media Test with Toxic and Nontoxic Gases

Test Rig



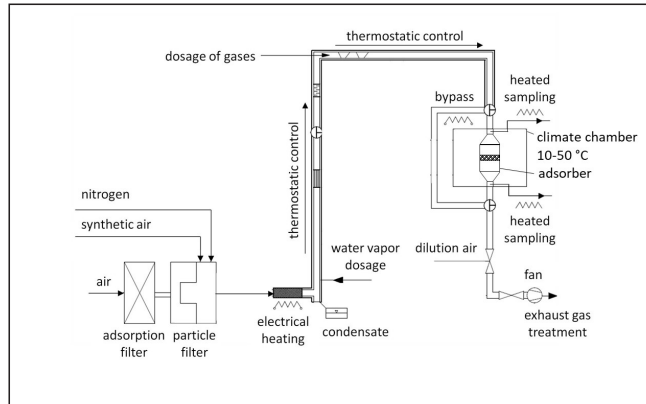
Test rig for toxic and nontoxic gases

- Measurement of breakthrough curves
- Determination of the adsorption capacity
- Large variability of single gases and gas mixtures
- Packed beds, flat sheets and respirators
- Measurement with PTR-MS, FID and specific gas analyzers



Test chamber

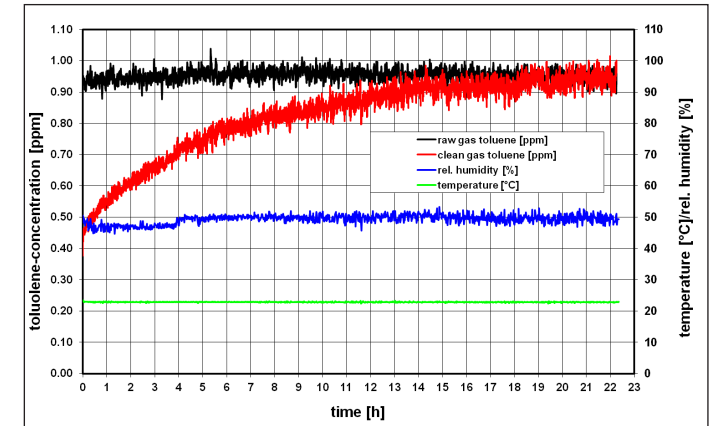
Technical Specifications



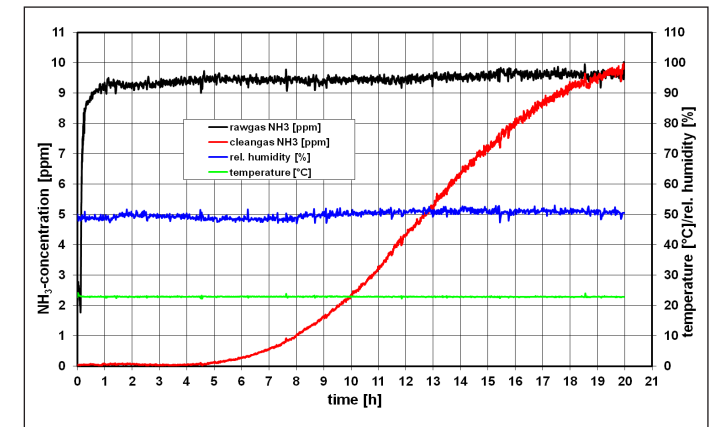
Schematic of test rig for removal of toxic and nontoxic gases

- Test flow rate: (1 - 25) m³/h
- Test temperature: (10 - 50)°C
- Relative humidity: (5 - 90) % RH
- Test gases: e.g. benzene, toluene, formaldehyde, acetaldehyde, SO₂, H₂S, NO_x, O₃, CO
- Concentrations: low ppb up to high ppm
- Gas mixtures: up to six substances
- Carrier gas: air

Exemplary Results



Simultaneous measurement of upstream and downstream gas concentrations (e.g. toluene) with PTR-MS



Packed bed testing with ammonia