Vacuum Cleaner Filtration Test System VCT 121

Vacuum Cleaner Test System VCT 121

The VCT121 test rig is designed for tests on vacuum cleaners (vac) for household or small business use according to the standard EN 60312.

For testing, the vacuum cleaner is to be placed under the sealed test hood.

For *emission tests* the suction air is prepared with a dust concentration of 550 mg/m³ and passed directly into the hose of the vac.

For *dust retaining tests* the suction air is prepared with a dust concentration of 100 mg/m³ in the inlet channel (mixing tube) described in the standard. A particle analysis of the suction air is done. The outlet air of the vac is guided into the exhaust channel for a particle analysis. The air flow rate is precisely determined in the exhaust channel with a Wilsongrid and the corresponding differential pressure measurement.

Test rig control and data acquisition are performed by means of the user-friendly user interface via touchscreen. A dynamic data exchange (DDE) is implemented in order to export measuring data to Excel.

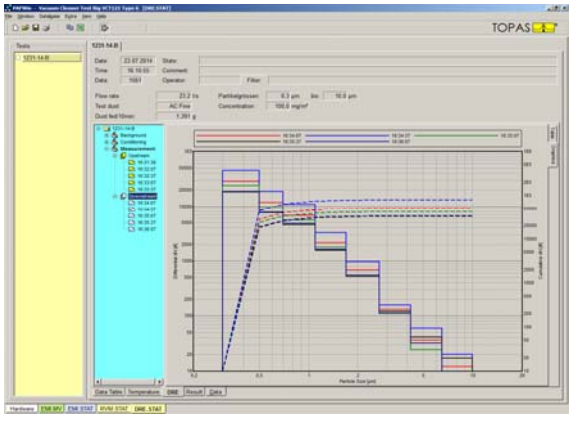
Special Advantages

- Automatic test procedures in accordance with standard EN 60312 for
  - Emission test with determination of the average result and determination of a confidence limit
  - Filtration efficiency test with determination of a confidence limit
  - 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
- Exact automatic dust dosing with mass flow controlled dust feeder
- Automatic data transfer from particle counter and statistical data evaluation
- Log printout with user selected representation
- External data storage with user selected parameters

Applications

- Determination of particle emission of the vacuum cleaner into the exhaust air
- Determination of the dust retaining capacity of the vacuum cleaner

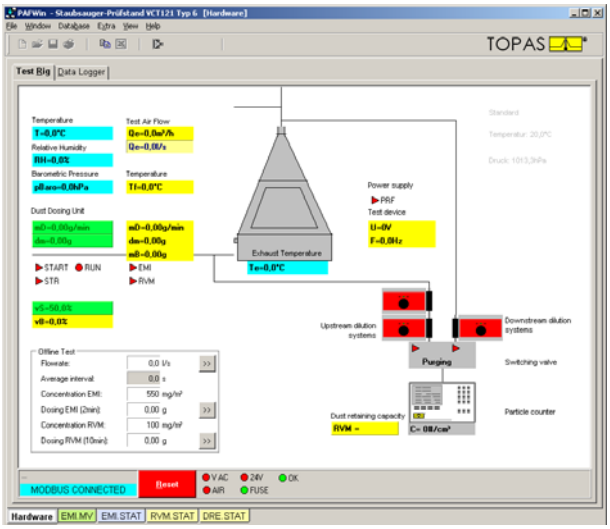


Display of Test Results

Specifications

Components of the Test System

- Dust feeder for continuous supply/feeding with automatically controlled feed rate from 0.03 – 3 g/min
- Optical particle counter (0.3 – 25.0 µm, max. 16 size ranges/channels) with sample switching unit and automatic aerosol dilution systems
- Integrated sensors for air data and electric data of vacuum cleaner under test
- Sensors for ambient conditions
- Test hood and air channels made of stainless steel
- Test rig control and data acquisition software VCT121Win



User Interface for Vacuum Cleaner Test System Series VCT

Technical Data

Volume flow rate	18 to 200 m³/h
Test dust	ISO 12103-1, A2 (AC-Fine)
Test device type	Vacuum cleaners for domestic or small business use
Test hood	
ground area	1000 x 500 mm²
effective depth	800 mm
door opening	400 x 800 mm²
Compressed air supply	min. 5 bar / 5 m³/h
Power supply	
device under test	50 ... 250 V AC / max. 20 A
Power supply	
test system	230 V AC / 16 A / 50-60 Hz
Dimensions	2600 x 850 x 2500 mm
Weight	350 kg