

## Air Intake Filter Test System

## ABP 115



Automated Dust Loading Test Rig ABP 115 with dust disperser SAG 420

The Automated Dust Loading Test rig ABP 115 enables standardized testing of industrial and engine air filter in accordance with ISO 5011 and ISO 10263. Suction pipes and other parts of the intake tract can also be characterized in the following parameters:

- Differential pressure related to air flow rate
  - Differential pressure of the filter
  - Restriction (relative pressure against ambient)
- Dust loading capacity (related to differential pressure increase, e.g. 20 hPa)
- Gravimetric efficiency

Through additional modules water tests can be performed to test samples to examine and characterize the test sample. Pressure Tests are also possible.

The dust generator SAG 420 is placed on a scale to control the dispensed dust mass flow. SAG 420 and the scale are located in a housing on a movable frame. The frame can be positioned in the required height of the specimen.

### Special Advantages

- Powerful two-stage generation of the volume flow
- Precise flow rate measurement with adjustment for every application (ISO 50100)
- Modular design: components selected according to specific test requirements
- Regulated gravimetric dust dosing
- High level of automation, mostly automated test procedures with complete operator guidance, data handling and protocols

### Applications

- Tests of engine intake air filters according to standard ISO 5011 and ISO 10263
- Tests according to customer-specific standards



For mass flow controlled dust dosing:

Dust Disperser SAG 420 on a scale with housing, integrated in a movable rig with height adjustment



## Specifications

### Components of the Test System

- Solid Aerosol Generator SAG 420 on movable rig, ISO 5011 standard nozzle and additional nozzle for high dust mass flows (> 25 g/min) / (heavy-duty injector), online weighing for mass flow control
- Piezometer tubes for differential pressure measurement
- Absolute filter housing for pocket filters
- Sensors for differential pressure, air flow rate, temperature and relative humidity, barometric pressure
- Very powerful flow rate unit with radial blower or side channel blower, controlled by frequency inverter and throttle flap
- Scales for weighing absolute filters and filter samples with data transfer
- Scavenging line for performing tests with precleaners

### Optional:

- Stabilization vessel with different connection flanges
- Additional pressure sensors for measuring complete air inlet systems
- Water injection system and water separators
- Particle measuring equipment
- Universal panel filter holder
- Dust disperser SAG 410 for soot
- Scavenging line



Test Rig ABP 115 with water injection system and water separator

### Technical Data

Volume flow rate (at standard conditions)	2 – 50 m <sup>3</sup> /min (20 °C, 1013 hPa)
Differential pressure	max. 150 hPa at test sample
Test dust	ISO 12103-1 (A2 fine), ISO 12103-1 (A4 coarse)
Compressed air supply	6 bar
Power supply	400 V AC 125 A

### Updating the test system

Furthermore remodeling of existing test rigs is possible and provides the following benefits:

- Use of proven components already in existence (blowers, flow rate measurement equipment, dust feeders, sensors, dust generators)
- Complete automation of the test rig
- Cost savings

QMS certified to  
DIN EN ISO 9001.



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