Electrostatic Aerosol Neutralizer
Series EAN

Electrostatic Aerosol Neutralizer EAN 581

The mechanical interaction of particles, especially solid ones, may cause undesirable levels of electrostatic charge. Test dusts must be generated with a high degree of reproducibility for instance when evaluating aerosol separation techniques such as cyclones, filters or impactors. Comparable results can only obtained at controlled and similar charge levels.

The electrostatic aerosol neutralizer EAN 581 conditions the charge distribution on test dusts as well as other aerosols. Charge equilibrium can be controlled by mixing positive and negative ions in a precise manner.

Applications

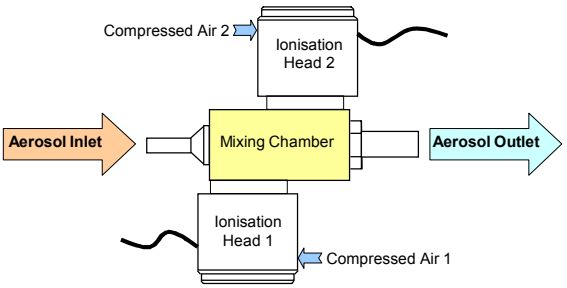
- Effective, controllable aerosol neutralization
- Particle charging in a definite manner
- Reproducible evalutation of aerosol separation techniques and filtration efficiencies
- Quality assurance
- Fundamental aerosol research

Special Advantages

- Controllable generation of ions
- Separate adjustment of both positive and negative ion sources
- No radioactive source
- Easy to integrate into existing filter test systems and other test apparatus

Principle

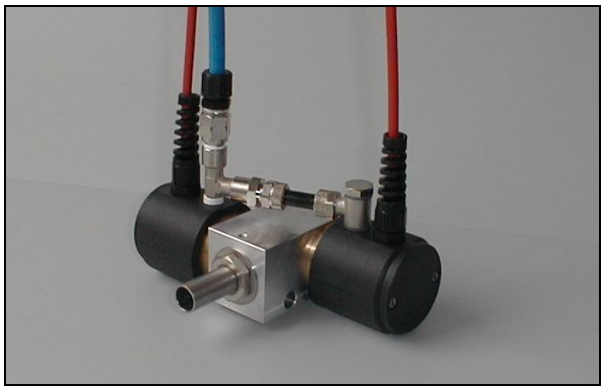
The EAN 581 is based on the corona discharge principle and consists of a mixing chamber with two separate ionization heads and a control unit. Positive and negative ions are generated by the two ion blowers and consecutively mixed into the aerosol stream in the mixing chamber. A source of compressed, particle free air is connected to both of the ionization heads and mains voltage applied to the power cord.
The special design of the mixing chamber guarantees nearly ideal mixing conditions allowing the highest (dis)charging efficiency. The exchange of air ions onto the surface of the particles causes changes in the final charge remaining on the particle as it leaves the unit.



Mixing Chamber with Ionization Heads (Ion Blower)

The control unit supplies high voltage and a constant ionization current to the ion blower. Operating voltage and ionization current are displayed on the control unit front panel in kV and µA for precise and reproducible adjustment.

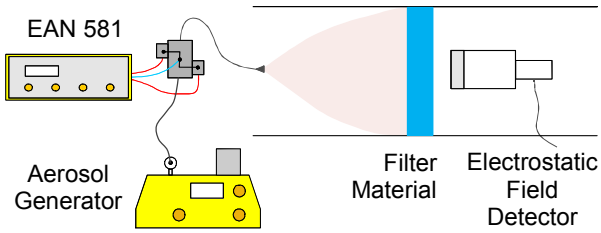
Specifications



Mixing Chamber and Ionization Heads

The EAN 581 has been designed to be used in conjunction with a wide range of aerosol generators. Because particles from dust dispersers usually carry serveral thousand elementary charges the EAN 581 is an invaluable accessory for perfectly match as an accessory for the range of Topas dust and fibre dispersers in the SAG Series as well as devices other manufacturers'.

In order to control neutralization process, it is possible to detect charge collection on a filter by measuring static electrical field. For this purpose an electrical field intensity measuring device is offered for accessory device.



Schematic of controlled neutralization process

Adjustment of the neutralizer shall be made, that during aerosol delivery no gradient of measuring signal is to be observed. Such a situation indicates that the aerosol has in sum properly discharged.

Aerosol Flow Rate	1...15 m³/h (17…250 lpm)
Aerosols	Solid or liquid aerosols 0.1 ... 150 µm
Connections Inlet Outlet	Outer diameter 8 mm 14 mm
Pressurised Air Supply	Particle filtered air Max. 8 bar
Power Consumption	Approx. 50 W
High Voltage	0 ... 10 KV
Ionization Current	0 ... 150 µA
Power Supply	100 ... 260 V AC
Dimensions Control Unit	480 x 260 x 160 mm
Weight Control Unit Mixing Chamber	 7.5 kg 1.2 kg

QMS certified to DIN EN ISO 9001.

12 100 11908 TMS

For more information please visit our website at www.topas-gmbh.de

Specifications are subject to change without notice.

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