

Nano Aerosol Generator Model #7.860

General

The Generator Model #7.860 is a tungsten aerosol generator, used to produce extreme small airborne particles. The fundamental principle is the use of a heat able tungsten wire, which generates at high temperatures a large amount of small dioxide particles. The unit is designed in accordance with the German VDI-Standard 3491.

The concept of the generator and the constructive technological solution is based on the fact, that a variable electric current generates a variable dioxide concentration. To maintain a controllable particle concentration, there are three different airflows in the instrument:

- (1) One air stream transports the molecules, produced by the wire.
- (2) A 2nd air stream permits a dilution and stabilisation of this concentration to a defined flow rate.
- (3) A 3rd air stream permits an additional dilution, so measurements can be made with nano particle counters such as CPC or FCE.

The generator operates with external air supply. The air pressure connector is at the front of the unit. With the exception of the air supply, all components are inside the instrument. Should for some reason the internal pressure exceed a defined limit (e.g. caused by a pinched internal tube), than a security valve (at 0.2 ... 0.3 bar) will open. Consequently the operation of the device is safe.

Application

- Determination of the efficiencies of
 - condensation particle counters
 - optical particle counters
- Fine filter efficiency test
- Inhalation and toxicology studies
- Mixing and coating processes (e.g. for ceramic technology)

Specification

| | |
|------------------------|--|
| Size range: | 1.2 to 20 nm |
| Aerosol concentration: | variable up to 10^{10} p/l |
| Material: | Tungsten Oxide |
| Power supply: | <ul style="list-style-type: none"> • 85 to 264 VAC/47 to 440 Hz max. 1 A (RMS by 110 VAC) • external compressed air |
| Air pressure supply: | 2 to 6 bar (oil and particle free) |
| System control: | automatic |
| Cleaning system: | integrated |
| Size: | 220 x 177 x 270 mm |
| Weight: | 7.5 kg |

Specifications are subject to changes without notice.

