DNP DIGITAL 3000

Particle measurement devices should be calibrated using particles with characteristics — such as shape, size, density, surface condition, and refractive index — similar to those of the actual aerosol to be tested, for example diesel soot.The DNP digital 3000 generates a condensation aerosol from conductive materials such as graphite, copper, silver, and others. The resulting carbon agglomerates resemble diesel soot in terms of particle size distribution. Thanks to its digital control system, the generator offers an expanded adjustment range and even greater consistency in particle size and concentration.

BENEFITS

- Fast adjustable particle size distribution
- Excellent short-term and long-term particle size and concentration constancy
- Particle structure similar to that of diesel soot at graphite electrodes
- Apart from graphite electrodes, copper, silver or other electroconductive electrodes can be used as well
- For PMP-measuring section easy connectable to CVS systems in combination with RAS 3000 (accessories)
- No volatile parts in the aerosol
- Aerosol is temperature-resistant to 400 °C
- Best reproducibility

APPLICATIONS

- Calibration of PMP measurement chain
- Calibration of particle measurement devices
- Calibration of sampling lines
- Production of nano particles
- Inhalation exploration
- Toxicology
- Material Science

FEATURES

- Digital control of spark frequency and voltage for greater consistency
- Highly precise flow rate adjustment via MassFlowController
- Interchangeable electrodes made of graphite, copper, silver, gold, and other conductive materials
- Carrier gas: nitrogen or argon
- Operation via touchscreen display with parameter set storage
- AK interface protocol for Ethernet via UDP

Particle size range	0.02 – 0.35 μm
Volume flow	4 – 70 Nl/min
Volume flow (accessories)	0 – 450 l/min (REF 3000)
Volume flow (carrier/dispersion gas)	4 – 20 l/min
Volume flow (dilution gas)	0 – 50 l/min
Mass flow (particles)	0.1 – 25 mg/h (for carbon)
Particle material	Carbon, copper, silver, gold and other metals
Dosing time	Several hours nonstop
Pre-pressure	4 – 8 bar
Carrier/dispersion gas	Nitrogen, argon
Compressed air connection	Quick coupling
Aerosol outlet connection	$Ø_{inside}$ = 6 mm, $Ø_{outside}$ = 8 mm
Particle size range (primary particles)	3 – 10 nm
Dilution gas	Particle-free and dry compressed air
Dimensions	185 • 445 • 380 mm (H • W • D)
Weight	23 kg