

CES



QAG™ 820

Quantitative Aerosol Generator (QAG)



Key Features

- Quantitative aerosol Traceable to NIST Standards
- Simultaneous for one or more elements
- Wide range: ng/dscm to mg/dscm
- Automatic mass loss reporting
- Single operator with minimal input requirements

The QAG™ creates an aerosol of known concentration by ultrasonically nebulizing a solution. The resulting droplets are carried out of generation area to a drying chamber where they are dried to salt particles. Depending on the application for the salt particles the size can be varied to a number mean between 0.1 and 2 μm in diameter. The aerosol exiting the drying chamber contains known concentrations of analyte elements calculated from the QAG's input parameters. This reference aerosol produced by the QAG is process traceable to NIST standards and can be used to challenge and evaluate the accuracy, precision and linearity of measurement methods such as the Xact series monitors during certification and RATA.

Approved by US EPA for Multi-Metal CEMS Audits and Certifications

Stability has been demonstrated through repeated use in the laboratory and in the field for over five years. The QAG can be operated by one user with minimal parameter inputs and control. The QAG may also be potentially applicable to other inorganic analytes including most hazardous elements in stack and fugitive emissions as well as those present in the ambient environment.

This instrument is the first quantitative aerosol generator to be approved by EPA for evaluating, validating and certifying continuous multi-metals CEMS used for compliance demonstration. The QAG greatly simplifies the certification and auditing of multi-metal CEMS and eliminates the need to compare multi-metal CEMS results to less precise and less accurate traditional multi-metal reference methods such as EPA Reference Method 29.

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Applications

Possible applications include evaluation, verification, audits and certification of metals and PM measurement systems. It is applicable to both metal and non-metal species as well as generic PM aerosols.

Product Specifications

Aerosol Generation Method	Ultra-sonic nebulization
Elements	Hg, As, Pb, Cr, Cd, Co, Fe, Zn, Tl, Sb, Cu, Mn, Ni, V, Se, Ba, Br, Sr, Pd, Ag and more...
Aerosol Concentration Range	ng/dscm to mg/dscm
Can spike flows	Up to 1000 lpm
Calibration Period	Most components require recalibration at least annually
Balance calibration check frequency	Daily
Percent Relative Difference	5%
Linearity	Correlation coefficient greater than 0.99
Size and Weight	3' (W) x 2' (D)x 5' (H), 160 lbs assembled
Range of Operating Temperatures	50 to 90 °F
Power Requirements ¹	120VAC/ 60 Hz, two- 20 amp circuits (220 VAC/60Hz with optional power converter)
Inputs/Outputs	All mass data available through RS232 port
Options	Particulate matter, Metals, and non-metal species

1. 1 circuit must be condition power to maintain factory warrantee or service agreement.

