Application Note EDXRF3074

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EDXRF3074 - Air Filter Detection Limits

Scope

The detection limits for aerosols on air filters are demonstrated.

Background

Elemental analysis of aerosols and particulate matter released in smokestacks and other industrial gas discharge is vital to ensure that environmentally acceptable levels of toxic and hazardous elements are released properly into the air. Monitoring smoke or other gaseous waste is important in many areas, such as industrial manufacturing, coal-fired power plants, chemical and plastics production, etc., in order to minimize air pollution and the release of toxic metals. As a tool to help ensure air quality, Rigaku offers the NEX DE EDXRF analyzer with 60 kV excitation source and high resolution and throughput Si Drift Detector, giving the analysts and technician alike a fast, simple, yet powerful means for monitoring elemental analysis of air filters.

Conclusion

The Rigaku NEX DE combines filtered direct excitation with a high performance SDD detector capable of 500,000+ cps throughput to deliver excellent sensitivity for the measurement of metals in aerosols on air filters. The NEX DE analyzer is capable of elemental analysis from Na – U, making the XRF technique ideal for other elements on air filters, as well.

For the measurement of light elements Na – Cl, helium purge is used to remove air from the optical path and optimize analysis sensitivity. Elements from Cr and above can be easily measured in air without the need for helium purge.

The NEX DE analyzer also gives the user a very versatile tool not only for monitory air filters, but also elemental analysis of solids, powders and liquids.

This power and simplicity makes the analyzer an ideal tool for screening and monitoring particulate aerosol filers to help ensure industrial processes are environmentally sound.

Related products

NEX DE Series

High-power 60 kV EDXRF systems delivering speed, precisi
on, and small spot measurements