

Universal tool for mercury determination in combustion plants

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Mercury measurement in coal combustion and co-combustion plants is generally a difficult and costly exercise. In most cases, the laboratory is faced with a large range of different sample types, often quite heterogeneous, from solid fuels to waste water and flue gas. Also, there is a significant variation in mercury concentrations, sometimes spreading over several orders of magnitude. And last but not least, there are bound and elemental mercury species present, which behave quite differently in the flue gas and in cleaning process.

To enhance coal preparation, to control emissions and releases effectively, quantitative information about the input of mercury into the combustion process and tracing of the element along the different flue gas cleaning units is necessary.

A universal analytical approach based on Zeeman atomic absorption spectroscopy is presented that allows mercury determinations in virtually all samples encountered in a combustion plant without elaborate and expensive sample conditioning.

Results of the application of such instrument in the power generating industry are shown.