

Mass spectrometric measurement of plasma and flame chemistry

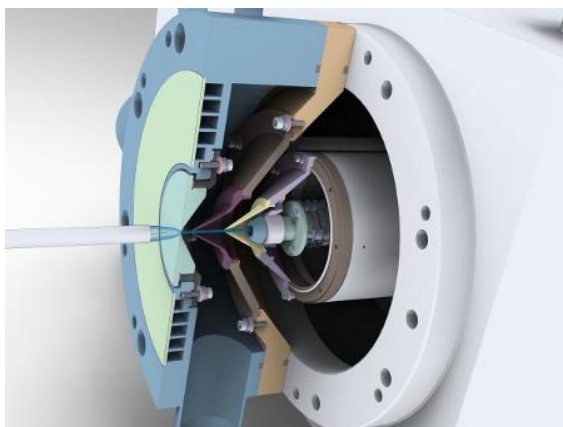
The mass spectrometric analysis of the ionised and chemically unstable reactive species generated in flame and high-pressure plasma environments requires their rapid transit through vacuum through to the mass spectrometer with minimal interaction.

The Hiden HPR-60 system is a research tool designed specifically for these analyses at process pressures from sub-atmospheric through to 10 bar. Multiple ultra high vacuum (UHV) stages with independent turbomolecular vacuum pumping are separated by coned diaphragms each with a central orifice, all precisely aligned to enable the unhindered transmission of the sampled beam through to the mass spectrometer probe for analysis.

The mass spectrometer is the Hiden EQP Mass/Energy analyser measuring mass and energy of both positive and negative ions, with the on-board electron bombardment ion source providing analysis of neutrals. A mechanical beam chopper enhances detection levels for neutrals by modulating the beam, data acquisition then being gated to enable direct comparison of beam-on/beam off intensities for subtraction of background elements.

Systems provide detailed analysis of plasma and flame chemistry together with reaction kinetics and confirmation of gas-phase intermediate species. A custom design service is available to assist with specific user interface requirements.

For further information on this or any other Hiden Analytical products contact Hiden Analytical at info@hiden.co.uk or visit the main website at www.HidenAnalytical.com.



Hiden HPR-60 Plasma-Flame Diagnostic

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