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New Product Information

Molecular Beam Mass Spectrometer Monitors Reactive Ions at Ambient Pressure

The Hiden HPR-60 mass spectrometer is a research tool conceived specifically for direct analysis of ions, radicals and neutral species in reactive processes and is of special interest to researchers studying plasma and flame chemistry, reaction kinetics, gas-phase intermediate species. The system typically operates in pressure regimes from 10E-3 mbar to 5 bar, and mass spectrometer options provide for measurement of neutrals, positive ions, negative ions and ion energies with choice of mass range up to 5000 amu. A new option is targeted specifically to isotopic measurement of light gases, with the ability to quantify trace deuterium in helium, for example, down to just 10 part per million.

The system samples direct from the reaction zone using a sequence of up to three pressure reduction stages to provide a sampling range from 10E-3 mbar to 100 mbar for the two-stage system and to 5 bar with the third stage. Intermediate aligned beam skimmers within each stage form a supersonic molecular beam for direct, near collision-free transfer of sampled species direct to the UHV-operating mass spectrometer. The potential of each skimmer stage is independently biased to optimise ion extraction, beam focussing and ion transmission.

The integrated molecular beam chopper enables automated sequential acquisition of foreground/background data to provide refined measurement of neutrals composition with real-time display of the net acquired signal. Vacuum system operation is automated and systems are fully over-pressure protected. A custom-engineering service is available for design of any required system-to-process interface.

For full details on this or any other Hiden Products contact Hiden Analytical at **info@hiden.co.uk** or visit the main website at **www.HidenAnalytical.com**

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HPR-60 MBMS Molecular Beam Mass Spectrometer