



Gas Analysis

High Performance Gas Analysis for *Automotive Fuel Cell* Research and Development

Summary

The study of gas phase reaction kinetics provides vital information for the researcher tasked with delivering cost effective practical fuel cell solutions.

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Fuel Cell Technology, and its implication for the automotive industry, has been of significant interest over the past few years. Research and development initiatives undertaken by many of the leading motor manufacturers have led to major advances in our understanding of both the fundamental principles, and practical implementation, of this new technology.

As a manufacturer of advanced, quadrupole mass spectrometer based, gas analysis systems, Hiden Analytical has played an important role in this research - particularly in the complex area of temperature programmed studies and catalyst characterization.

Our quadrupole systems, optimized specifically for fuel cell research, offer a number of key benefits over other analysis techniques: rapid response (critical for temperature programmed studies), wide dynamic range, repeatability and linearity, are all of the up most importance when

analyzing processes - particularly those in the presence of hydrogen – with widely varying gas concentrations.

Hiden's research grade HPR-20 QIC, and new addition to the gas analysis family, the laboratory standard QIC-20, both feature ultra high vacuum compatibility combined with fast response inlet technology. These features provide for accurate, stable and reproducible analysis of low molecular weight species, over a wide concentration range, present in a hydrogen rich atmosphere, and are found to be invaluable in applications such as the conversion of hydrocarbons, or alcohols, to hydrogen (reformers) for use in Proton Exchange Membrane (PEM) Fuel Cells.

For more information:

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