

Mass spectrometers with optimised hydrogen pumping

Applications for mass spectrometer-based gas analysis systems are diverse but precise determination of minor component species is a routine requirement. In particular the hydrogen component is becoming increasingly important in many areas of research and of process control.

Systems operate in a vacuum environment, the ultimate vacuum attainable being a function of vacuum system configuration, of air leaks from atmosphere and of contamination by pump fluid vapours. Hiden Analytical specialises in the manufacture of quadrupole mass spectrometer-based gas analysis systems, with systems being turbo-molecular pumped, constructed entirely using best-practise ultra-high vacuum techniques and now being even further enhanced by the incorporation of oil-free dry scroll pumps as standard to give a significant reduction in foreline vacuum base pressure. The ultimate attainable vacuum base pressure is reduced, efficiently minimising system residual and contaminant species.

The new vacuum configuration improves detection levels for all gas species and is particularly beneficial where measurement of trace levels of hydrogen and helium are of interest, with hydrogen detection levels typically improved by up to a factor of 50 relative to alternative dry-pumping configurations. The configuration additionally increases throughputs where hydrogen is a significant component species, enabling higher sample pressures with enhanced determination of low-abundance species.

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.

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Hiden HPR-20 benchtop gas analyser with fast-response continuous sampling