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New Near-Infrared Probe Enables Large-Scale Chemical Process Monitoring by Diffuse Reflectance Spectroscopy

TUSTIN, Calif., March 2, 2009 – Axiom Analytical, Inc. has announced its FDR-1800 Series Near-IR Diffuse Reflectance Probes. The new probes can be fabricated in virtually any length and thus provide a unique capability for process monitoring in full-scale batch reaction vessels. Such vessels often include glass lining or heating coils, making probe entry from the side of the vessel impossible. However, an FDR -1800 probe can be made long enough for top entry even in the largest reaction kettles. An important feature of the FDR -1800 design is the use of Axiom's proprietary window sealing technique involving a direct sapphire to metal welded pressure seal (U.S. Patent 6,587,195 B1). This approach provides significant advantages over other sealing techniques. A high degree of chemical resistance is assured by the fact that the only materials in contact with the process are sapphire, high nickel alloys, and a thin flash of either gold or PTFE (application dependant). The compliance required to withstand extreme temperature cycling is provided by the high nickel alloy seal which is compressed at high pressure prior to welding. This approach eliminates fatigue and stress failures common with brazed seals as well as the limited lifetime characteristic of elastomeric seals.

The optical design of the FDR -1800 Series is highly efficient, providing high quality NIR diffuse reflectance data even for nearly opaque samples. In fact, good quality on-line data have been obtained with process fluids having a total reflectance of less than 2 %. This performance is due both the efficiency of the optics and to a unique design which greatly reduces stray light due to reflectance within the probe (U.S. Patent 5,818,996).

About Axiom Analytical, Inc

Axiom Analytical, Inc. was founded in 1988 by Dr. Mike Doyle and Norm Jennings, pioneers in the field of process FTIR spectroscopy. The Company's mission is to develop and market the robust sampling equipment, software, and integrated systems required to fully realize the potential of molecular spectroscopy for solving economically significant problems both in laboratory analysis and manufacturing processes. The Company's products are employed in diverse industries ranging from basic chemicals to pharmaceuticals, semiconductors, and polymer processing.

More information about Axiom Analytical Inc. can be found at <http://www.goaxiom.com/>.