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Axiom Analytical, Inc. Announces a Steam Jacketed, Fiber-Optic Transmission Probe for Demanding Near-IR Process Analysis Applications

TUSTIN, Calif., November 5, 2012 – Axiom Analytical, Inc. has announced its FPT-850SJ “Steam Jacketed” [Near-Infrared Transmission Probe](#). The new probe facilitates chemical composition monitoring of process streams containing materials which might otherwise coat out on the optical windows or other probe surfaces. The space between the probe body itself and the outer jacket can be continuously flushed with steam or other hot fluid to prevent condensation. In addition, the metal surfaces of the probe are highly polished to further discourage sample adhesion.

In common with the Company’s existing FPT-850N Near-IR and FPT-850V Visible Transmission Probes, the Steam Jacketed probe has been developed to provide maximum long term reliability under the extreme conditions of high temperature, thermal shock, and aggressive chemistries encountered in many on-line process applications. The probe design has two key elements. The first is a proprietary 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 second key element of the FPT-850 design is the elimination of optical fibers within the probe (U.S. Patent 5,418,615). This insures excellent optical stability and long term reliability. The elimination of both internal optical fibers and elastomeric seals provides for reliable long term operation at temperatures as high as to 400°C. FPT-850N Near-infrared Transmission Probes are widely used for on-line process analysis in the chemical, petroleum, and pharmaceutical industries as well as in process development and related PAT (Process Analytical Technology) applications.

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 vibrational 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. In short, the Company’s products are found wherever process analytical technology (PAT) is being applied. Its hardware products include ATR probes, transmission probes, diffuse reflectance probes, Raman probes, flow cells for gas and liquid analysis, and fiber-optic multiplexers. These cover the full range of molecular analysis including mid-IR, near-IR, UV-visible, and Raman spectroscopy.

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