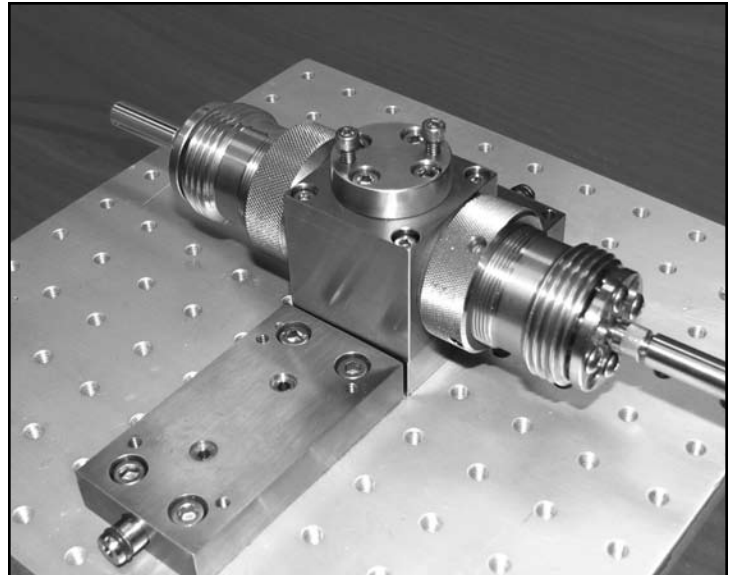


NeSSI Compatible Spectroscopic Sampling Equipment

Surface mount flow cells for Near-IR, UV-Visible, and Raman spectroscopy



“What is NeSSI”

NeSSI (New Sampling/Sensor Initiative) is an industry initiative undertaken to standardize and simplify the design of systems use in chemical process analysis.

A significant part of this initiative has been the development of modular, miniature, and automated sample system technology using a platform based on the ANSI/ISA SP76.00.02-2002 standard. This platform defines a standard mounting and interfacing geometry for a new generation of surface mount analytical components. Among the benefits of the NeSSI platform are modular assembly and replacement, short sample lines, fast response, compact design, low sample volume, and a high level of automation.

More information about the NeSSI initiative can be found at www.cpac.washington.edu/NeSSI/NeSSI.html

Many of Axiom Analytical’s fiber-optic coupled sampling devices incorporate designs which are well suited to the NeSSI approach to modular process sampling. Those devices described below are modifications of well established products which have proven themselves in numerous industrial applications throughout the world. In each case, the establish design has been modified to provide a surface mount configuration and flow geometry compatible with the standard NeSSI platform. The optical performance is essentially identical to that of the standard product. Reference is made to the corresponding data sheets for performance specifications.

FFV-320-Ne Fiber-Optic Coupled Transmission Cells

Widely used for both lab and process applications, FFV Series cells combine high optical transmission with a choice of either variable or fixed pathlength – from 0.5 to 15 mm. The FFV-320-Ne version mounts on a single standard 1.5” square NeSSI platform. Standard fiber-optic connections provide for communication with an appropriate spectrometer which can be either local or remote. (For further information see the FFV Series data sheet: PS-FFV.)

FFV-320-Ne Features:

- Near-IR, Visible, and UV spectral ranges
- High transmission
- Variable or factory-set pathlength
- Pathlengths from 0.5 to 15 mm
- Mounts on standard 1.5” NeSSI substrate

FNL-120-Ne UV-Visible ATR Cell

Attenuated Total Reflectance (ATR) provides a means for analyzing substances which are too strongly absorbing for transmission analysis. Axiom's ATR Tunnel Cells are widely used both in the mid-IR (to analyze fundamental molecular vibrations) and in the UV and visible regions (for the analysis of chromophores). TNL Series Tunnel Cells are designed for sample compartment mounting.

FNL Series Cells include fiber-optic coupling for interfacing with remote UV-Visible spectrometers. Model FNL-120-Ne has been specifically designed to mount on a double size (1.5" x 3") NeSSI substrate. The optical characteristics are identical to those of the standard FNL-120. (See data sheet PS-FNL and Technical Note AN-915 for further information.)

FNL-120-Ne Features:

- Fiber-optic coupling to UV-Visible spectrometers
- ATR sensitivity set by interchangeable ATR elements
- Selection of fused silica and sapphire elements
- Mounts on standard 1.5" x 3" NeSSI substrate

RFP-400-Ne Series Raman Sampling Systems

Axiom's RFP Series Raman probes are single-ended fiber-optic coupled devices. In principle, any of these probes can be adapted for use with the NeSSI platform by the simple provision of a suitable flow adaptor. We currently offer two such adaptors, models RFA-40 and RFA-60 for use with the RFP-440 and RFP-460 laboratory Raman probes, respectively. The combination of the adaptors and probes are referred to as the RFP-440-Ne and RFP-460-Ne Raman Sampling Systems. The

RFP-460 probe employs a new extension tip featuring multiple passes of the laser signal through the sample to greatly enhance sensitivity (US Patent 6,795,177 B2). RFA-40 and RFA-60 adaptors mate to a standard NeSSI 1.5" square substrate. The optical performance of RFP-400-Ne Systems is identical to that of probes employed. (See data sheet PS-RFP40 for further information.)

RFP-400-Ne Features:

- Fiber-optic coupling to Raman spectrometers
- Modular construction with standard probe body
- Interchangeable single- and multipass-tip/adaptor assemblies
- Interchangeable Raman filter sets
- Mounts on standard 1.5" square NeSSI substrate

For more information, or to discuss your specific application, please do not hesitate to contact us at 1-800-goaxiom or visit us on the web at www.goaxiom.com.

