SA-2000 Analytical Appliance*

… The fast track to process analytical deployment

The SA-2000 Analytical Appliance provides a secure, streamlined approach to process analytical deployment by providing a locked-down hardware and software environment combined with a set of rigorously tested algorithms each of which is dedicated to a specific application. Each algorithm controls a specified analytical instrument and sample system and provides outputs in the form of process variable predictions. The Symbion Appliance thus inherently provides compliance under 21 CFR Part 11 while eliminating the need for validating complex instrument operating software and other third party packages.

Robust Data Processing Hardware

The hardware portion of the Symbion Appliance is a ruggedized yet stand-alone miniaturized industrial computer, containing a solid-state hard-drive, and is ready for immediate deployment in a process environment. The interaction with the appliance is via a choice of a thin client or a client/server – allowing the user, with appropriate permissions, to select from the dedicated set of algorithms each of which is designed for a specific PAT-related application such as drying, blending, or reaction monitoring.

Pre-Validated Design Approach

The Symbion Appliance employs the concept of a Pre-Validated Approach. The Operating system and embedded Symbion software are pre-loaded at the factory onto the internal hard drive. This insures all systems are shipped with the identical OS and Symbion software. Finally, the software is resident in pre-defined and highly reliable industrial hardware package employing no moving parts. The application layer, operating system, and hardware are pre-validated as a unit and shipped directly to the user.

Secure Hardware Interaction

Communication between the Appliance and analytical instruments is via a set of instrument-specific drivers which do not require instrument vendor software on the appliance. Communication with control systems, historians, and other data systems is provided by an internal OPC client/server. The client/server also provides communication with the components of a sample conditioning system the operation of which may be integral to a given analytical method.

Browser-Based Connectivity

The SA-2000 contains an embedded Web Server that provides for the monitoring and control of the device. The Web server is designed to be compatible with all browsers on all OS platforms (Windows, MacOS, iOS, Android, Linux, etc.).

Off-line Development and Monitoring

Methods to be executed by the SA-2000 are developed using an extended version of the Symbion DX or RX Process Analytical Software Suite resident on a separate personal computer. This program can also be used to remotely monitor the operation of any number of Symbion Appliances.

Features:

- Rigorously tested industrial hardware

- Embedded operating system

- Embedded Symbion-RX software

- Locked-down algorithms for individual analytical methods

- Compatible with many spectrometers and other analytical instruments

- Compliant with 21 CFR Part 11

- NUC Form Factor for ultra-small footprint and low power consumption

- Browser-based Connectivity

- Controllable through any Smartphone or Tablet

*Patent-Pending