

## Model 1110 Synchronized Two Port Sampling Unit

Rev 041514



The **Tekran® Model 1110 Synchronized Two Port Sampling System** gives the **Model 2537** Mercury Vapor Analyzer the ability to sample from two separate input sources. Switching between the two sources is synchronized with the instrument sampling cycle. The number of sampling cycles in each position is user programmable.

The basic sampler comes with a single three-way Teflon® solenoid valve unit and a 10 ft. cable to connect the valve to the controller. A valve extension cable is available to allow the selection valve(s) to be placed at the sampling point, eliminating the need to run two separate lines to the instrument. For more complex switching applications, multiple 3-way valve units may be connected to switch in tandem with the first valve. This flexibility allows for a wide range of flow sampling configurations. A second valve, for example, could be used to switch a bypass pump to ensure that the flow rate through a flux chamber remains constant whether or not it is currently being sampled.

All sampling components are made of Teflon, with ¼" Quikgrip® tube fittings.

### Principles of

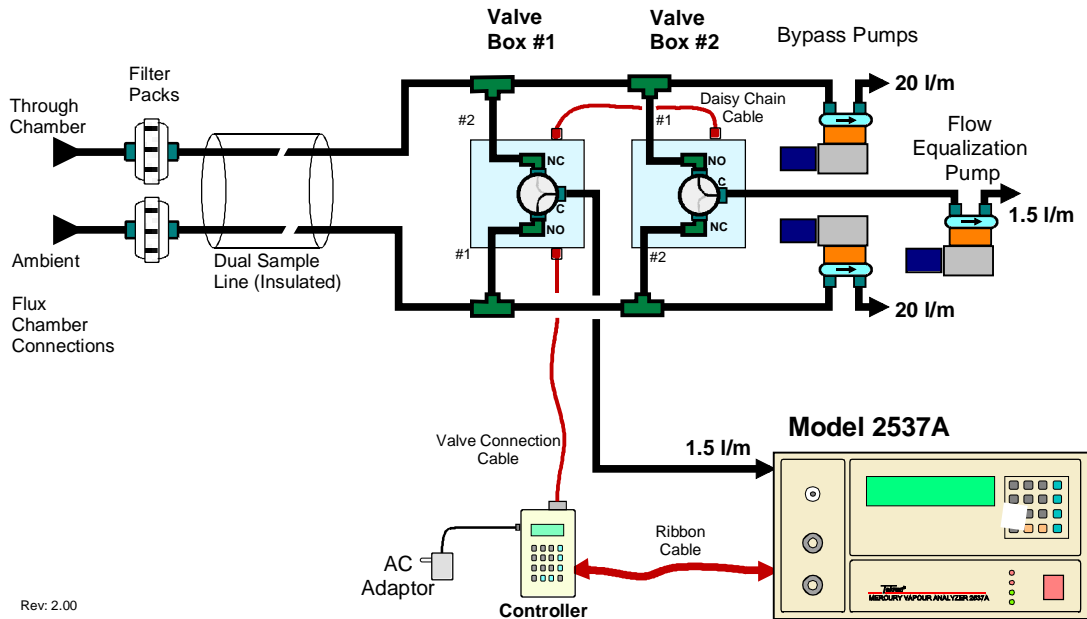
#### Operation

The **Model 1110** monitors the status of the instrument and will switch the input solenoid(s) as requested by the user. In the normal position, the air from **Port #1** is routed to the analyzer. When the solenoid is activated, the air from **Port #2** is sampled. The controller allows one or more **Event Flags** to be set to tell the Model 2537 which port is active. Switching operations are disabled when the instrument is in **IDLE** mode or performing a calibration.

### Applications

- Flux measurement
- Process Monitoring
- Speciation studies

## Typical Application Flow Diagram



This diagram shows a typical application where the Model 1110 is used to implement a Flux Chamber Monitoring System. Two valve units (one standard, the second available as Option 001) are used to ensure that the flow through the flux chamber and the delivery lines remains constant as the sample flow is switched.

## Data Handling

Tekran provides a Windows<sup>®</sup> based application, *Combine* with every Model 2537. This free program provides proper time alignment for any set of data readings, leaving appropriate gaps during periods of no data and combining results from several data files. *Combine* can also separate data based on the **Events** field of each data reading. Since the value of the **Event** field can be set to vary with the position of the sampler, data for the #1 and #2 sampling ports can be placed into separate columns.

## Additional Functions

The Model 1110 allows manual activation of the following functions at any time using the controller keypad.

- Event Flags 1, 2 & 3
- Zero Solenoid & Perm Source
- Calibrate Request
- Manual control of the Port Switching Solenoid

## Ordering Information

The Model 1110 includes the following standard components.

- Control Unit
- Instrument Interface Ribbon Cable (10 ft)
- One Valve Unit (3-way)
- Power Adaptor
- Valve Cable (10 ft)
- User Manual

## Options

- **Opt. 001** Additional Valve Unit (with 10 ft. of cable)
- **Opt. 002** Filter Kit. (Contains two 47 mm Teflon<sup>®</sup> filter holders (P/N 30-25850-00) and a package of twenty 0.2 um Teflon membranes.)
- **Opt. 090** Valve Extension Cable to allow remote placement of valve(s). (90 ft.)
- **Opt. 220** Power supply for 220-240 VAC operation. (Standard is 110-120 VAC)