

XC-6000EM

Automated MercSampler™

MercSampler™ Shown with Stirling Cooler



LT-D14RY

XC-6000EM MERC SAMPLER™

The **XC-6000EM MercSampler™** meter console captures all data necessary for paired sorbent trap sampling according to Appendix K and Method 30B. The meter console controls the sample flow rate proportionally to the stack flow rate and determines the standardized volume extracted through each sorbent trap. To collect the samples, two diaphragm vacuum pumps which work with the proportional valves and mass flow sensors, pull the samples through sorbent traps. Paired samples are extracted from the flue gas for the desired time period, from several minutes to several days. Two dry gas meters with encoders provide digital data for the volume sampled. Samples are then analyzed to determine time-averaged emissions.

The **XC-6000EM MercSampler™** simplifies most sampling requirements by automating data acquisition, sample flow adjustments, leak checks, calculations, temperature control, and calibrations. Data is easily transferred to a Microsoft Windows XP-based PC through Ethernet, USB or an optional Wireless Interface.

Features

- Customer-Friendly Software and Firmware
- Easy Data Export (Text and CSV files)
- Configurable System Alarms (Dry Contact Closure/Piezo Alert)
- Quarterly Audit Calibration Check (Optional Audit/Cal Kit)
- Remote Input for External Test Pause and Resume
- Easy to Use with Apex Mercury Sorbent Traps

**Choice of Portable or Permanent Enclosures
With Automated Software**

Mercury Sorbent Trap
(Method 30B)

Section 1
Sample Collection

Section 2
Breakthrough



Meets U.S. EPA 40, CFR Part 75, Appendix K and Method 30B requirements (formerly Method 324).

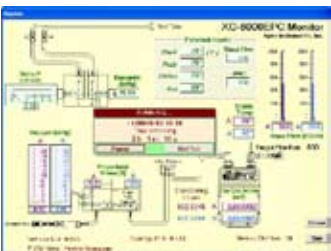
Alarm:



Pre & Post Leak Test:



Active Test Data:



Status & Indicator LEDs

Main Power & Heater Switches

A Sample Train
Rotameter & Volume Meters



Local PC Ethernet Connection

Local USB Ethernet Connection

B Sample Train
Rotameter & Volume Meters

Calibration:



Test Profile/ Configuration Set-Up



XC-8U Transport Case



Specifications

Dry Gas Meters:

- Positive displacement type.
- 0.4 liter per revolution.
- Optical encoder sensor with quadrature pulse output.
- 8 digit LCD Display, 1 cc resolution.

Sample Pumps:

- BTC Diaphragm, Brushless Motor - 12 VDC, 20" Hg Vacuum, 10,000 hour MTBF, 3900 RPM, Max. PSIG 24".

Sample Flow Control:

- Stainless steel sample manifolds fitted with mass flow sensors, vacuum sensors, and proportional valves.
- Proportional or constant flow sampling.
- Mass Air Flow: proportional flow control, 100 to 2000 ccm, port style, manifold mount.
- Proportional Valve: Voltage Sensitive Orifice (VSO), 12 VDC.

Data Acquisition Control Board (DAC):

- Enhanced Flash 16 bit RISC based microcontrollers; main and Digital Signal Processing (DS). Real time clock with auto backup and write protection to external SRAM.
- High Speed 14bit A/D convertor with parallel DSP interface.
- 1 GB SD Memory Card for data storage – stores up to 99 tests (30 day test runs). Embedded Ethernet Port with full TCP/IP Protocol and 256 bit encryption.
- USB 2.0 Comm Input connection.

Thermocouple Multiplexer:

- Accepts Type K Thermocouple inputs; input protection includes gas discharge tubes for ESD and surge protection.
- 11 Pic Microcontrollers, 1 for each channel and MUX circuitry
- MUX Circuitry to receive multiple inputs and transmit selected output.
- 10 microcontrollers, one for each optically isolated channel.

Integrated Temperature Control:

- Designed into DAC for probe/trap heat control output via 25 amp SSR.

Barometric Pressure: 600 to 1100 mbar, 17.7 to 32.4" Hg, temperature compensated, amplified output.

Vacuum: 0 to 30" Hg, 0 to 101 kPa, 2% accuracy.

Communications:

- PC user interface via Ethernet, USB, or optional wireless router
- Remote access and control via onboard configurable router to owners Network Computer.
- TCP/IP MODBUS (ASCII or RTU) Communications to the DAHS.
- Interface to DAHS system via TCP/IP Modbus.

Weight: 34 lbs. (15.5 Kg).

Dimensions: HxWxD 14" x 19" x 15.5" (35.6 cm x 48.3 cm x 39.4 cm).