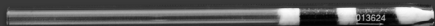


MERCURY XC-30B

Automated MercSampler™ System



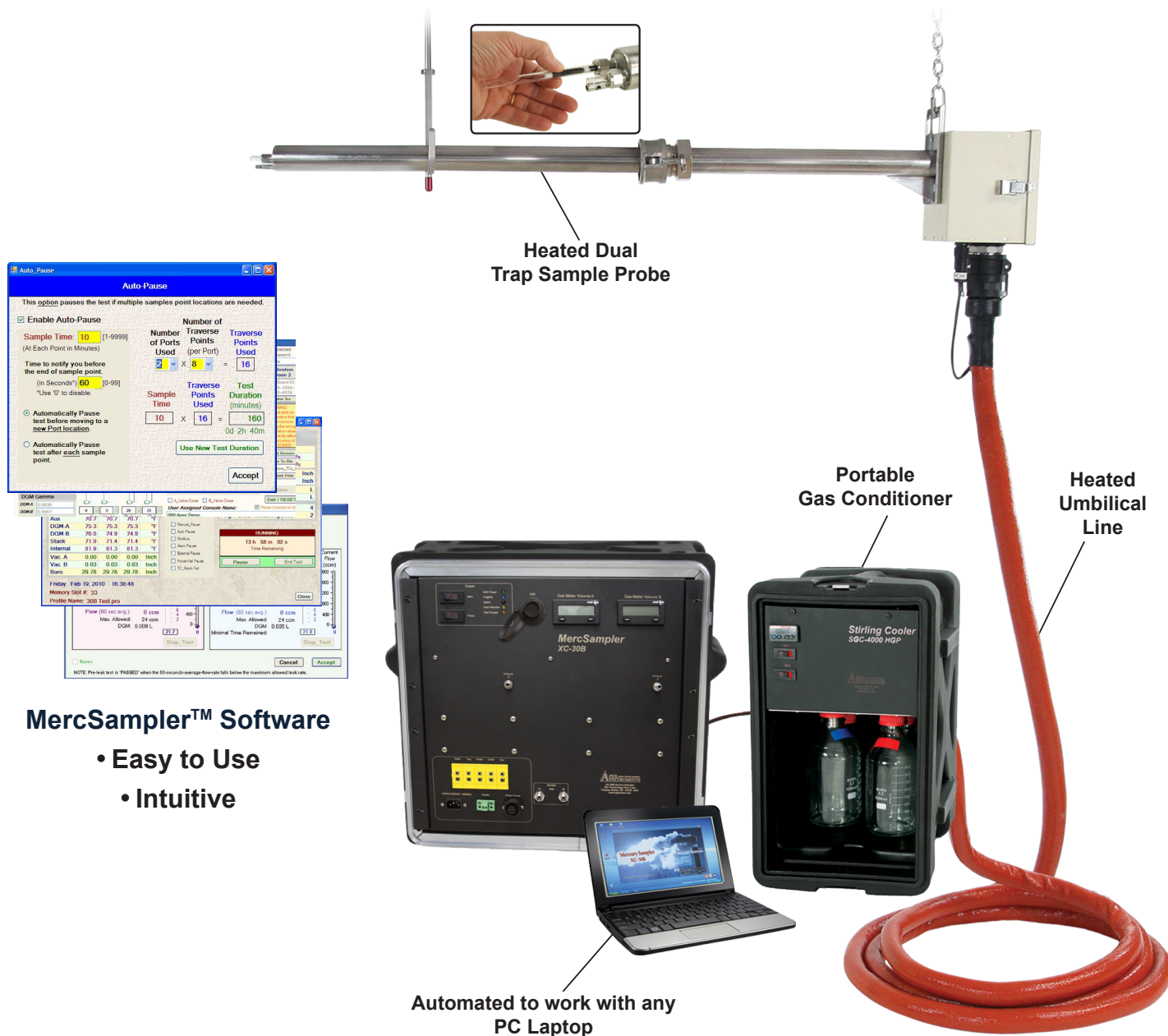
Method 30B Sorbent Trap



The **XC-30B MercSampler™ Console**, designed especially for performing EPA reference Method 30B, simplifies sampling requirements by automating data acquisition, sample flow adjustments, leak checks, calculations, temperature control, and calibrations. Data is easily transferred to a Microsoft Windows Based PC through USB Interface. The XC-30B MercSampler™ performs dual sorbent trap sampling at flow rates up to 2.5 lpm. It can be operated with your choice of probes and gas conditioning systems, including our popular SGC-4000HGP Stirling Gas Conditioner.

XC-30B

Automated MercSampler™ System



MercSampler™ Software

- Easy to Use
- Intuitive

Automated to work with any
PC Laptop

XC-30B System Includes:

- Automatic Console: XC-30B Sampling Console
 - Gas Conditioner: Portable Versions
- Stainless Steel Probe: For Dual Sample Traps
 - Umbilical: Heated Line

XC-30B MercSampler™ System & Components

SGC-4000HG STIRLING GAS COOLER

The Apex Instruments SGC-4000HG Stirling Gas Cooler is specially designed for removing moisture and acid gases from flue gas samples. This gas cooler uses an industrial grade super efficient Free Piston Stirling Cooler (FPSC) for chilling the gas to a constant dew point. The FPSC chiller module uses a small quantity of environmentally safe helium gas as a refrigerant. The module is hermetically sealed in stainless steel casing allowing for fast and easy installation and replacement when necessary.

- No additional tubing or pumps
- Free Piston Stirling Cooler (FPSC) has only two moving parts.
- Digital temperature control
- Constant set temperature



SC-30B GAS CONDITIONER

SC-30B · Sample Conditioner is designed for drying the sample gas prior to the gas meter for short term mercury sampling. A pair of coalescing filters and acid scrubber modules are housed in a lightweight aluminum VersaCase. Includes a 2" Cam-Lock fittings for convenient attachment to the Heated Umbilical. Compatible with the XC-260 or XC-30B system.



HEATED UMBILICAL LINE

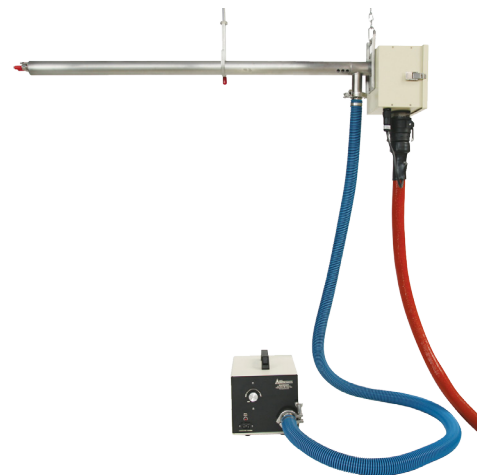
New improved heavy duty heated umbilicals with replaceable sample lines are designed to provide years of trouble free service. The umbilical includes the self-regulating heater cable, flexible conduit with two replaceable 1/4" PFA sample lines, pass through power and thermocouples for the probe heater and protected by a tough high temperature silicone jacket. The heated core is insulated with several layers of braided lightweight Pyron OPF yarn that will not burn or conduct electricity.

- Heavy Duty for Permanent or Portable Installation
- Replaceable Sample Lines
- Lightweight, Self-Regulated
- Braided Construction with High Temperature Jacket



PROBES & AIR COOLED PROBES

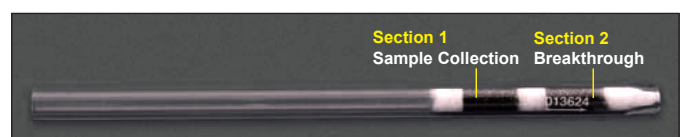
Probes are constructed from stainless steel or hastelloy for long-term use in extremely corrosive conditions. Probes come in standard lengths of 4', 6' and 9'. Type-K thermocouples are used to monitor, trap, stack and probe temperatures. Both probes are designed for two 10 mm diameter traps. The paired sorbent traps are inserted at the inlet end of the probe, using leak tight compression fittings before inserting directly into the flue gas stream. The probe is fitted with dual heaters to prevent any liquid condensation in the sorbent traps. An insulated, powder-coated aluminum probe head enclosure minimizes condensation at the junction between the probe and the heated umbilical/sample line.



SORBENT TRAPS

High quality sorbent traps for optimum mercury adsorption and retention. All sorbent media goes through rigorous QA/QC procedures to ensure that you receive the finest sorbent media available for your monitoring requirements. All traps are spiked to meet your specific needs.

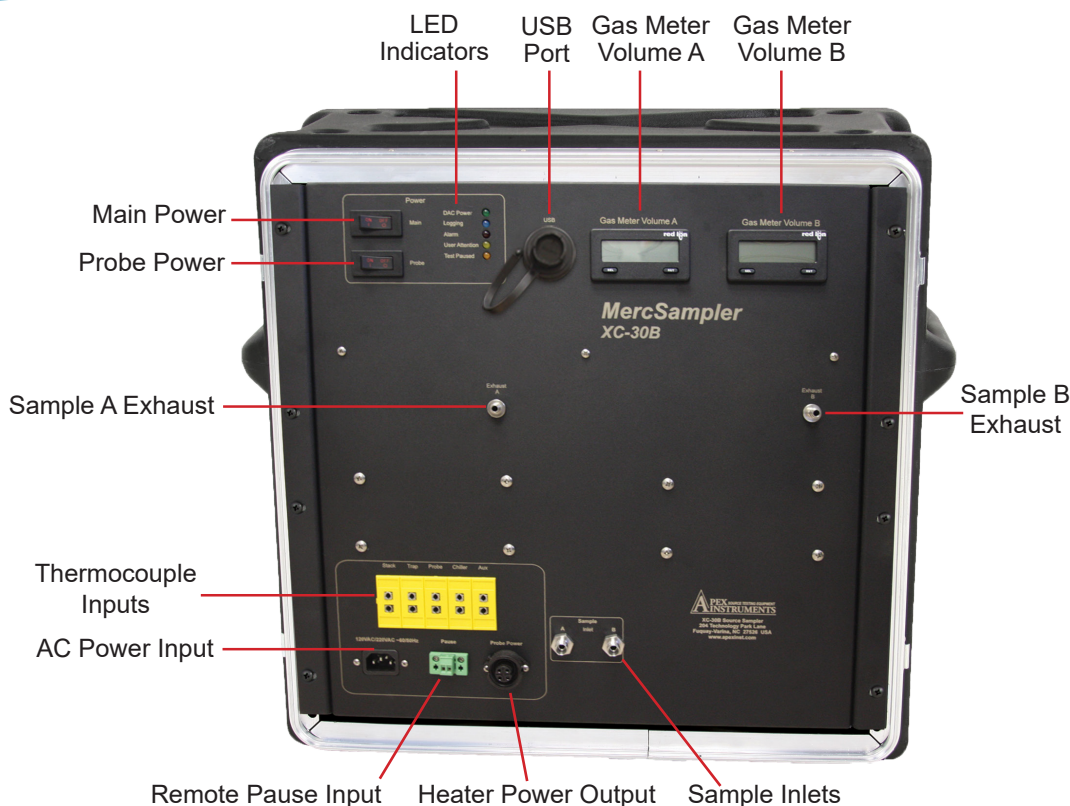
- High Capacity Impregnated Carbo
- Low Mercury Background Levels
- Custom Spiking Available
- Textured, Easy Grip Caps will ensure Accurate Leak Checking
- Durable Glass Tubes
- Protective Transport Tubes
- Chain of Custody Included
- Long Term Storage
- Variable Testing Duration



XC-30B MercSampler™

Features

- Fully Automated for Paired Sampling
- Dual Dry Gas Meters and Mass Flow Sensors
- Alerts for Port and Traverse Point Changes
- Simple Data Export
- Compact Portable System
- Eight Isolated Type K Thermocouple Channels
- USB Interface
- Easily Configured with Windows Based PC



Specifications

Dry Gas Meters:

- Dual dry gas meters with integrated optical encoders, resolution to 1 cc
- Model K2 positive displacement type.
- 0.4 liter per revolution.
- Optical encoder sensor with quadrature pulse output.

Sample Pumps:

- Dual Head Miniature Diaphragm Pumps with 12 VDC motors, Max Vac. 22" Hg

Sample Flow Control:

- Stainless steel sample manifolds fitted with mass flow sensors, vacuum sensors, and proportional valves.
- Constant flow sampling <300 ccm.
- Mass Air Flow: Flow control, 300 to 2500 ccm
- 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.
- Memory Card for data storage – stores up to 99 tests
- USB 2.0 Comm Input connection.

Communications:

- PC user interface via USB

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 single probe/trap heater control output via 25 amp SSR.

Pressure:

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.

Durable UHMW Polyethylene Case:

- Built-In Handles (Size 10U) 19" Rack Mount Panel

- **AC Power:** 120 Vac 60Hz. / 220 Vac 50Hz

- **Dimensions:** 23in x 21in x 12in (58cm x 53cm x 30.5cm)

- **Weight:** 39 lbs. (17.7kg)