

STS with Air Conditioner/Heater

# Sorbent Trap Sampler

## For multi-analyte analysis

### Special Features

- **Designed for continuous, long-term use in remote areas**
- **Stainless Steel or Hastelloy Probe**
- **Quick connect & disconnect gasket coupling and cap**
- **No tools required for trap access**
- **Dual parallel sampling channels supporting 7 mm or 10 mm traps**
- **Automated pre-leak, sampling & post-leak routines**
- **Modbus, TCP/IP Communications [fiber optics optional]**
- **Supports glass tube sorbent traps up to 36" (0.91 m) long**
- **Flow rates: 80 to 2000 cm<sup>3</sup>/min**
- **Alarms for sorbent trap & acid trap loading**
- **NIST traceable mass flow meters**
- **Peltier chiller to dry sample to 4 °C (39.2 °F) dew point**
- **System integrated into wall-mounted NEMA 4X fiberglass enclosure**
- **Touch panel HMI display for operator control, trending and alarms**
- **Industrial PC with Solid State Hard Drive for report generation**

### Application

The M&C Sorbent Trap Sampler system is designed to monitor total vapor-phase mercury (Hg) emissions in stationary source flue gas streams for Utility MACT (Maximum Achievable Control Technology standards) and MATS (Mercury and Air Toxics Standards) compliance for industries such as: power generation, cement, waste incinerators and several others required to install PS-12B (Appendix K) sorbent trap sampling systems in harsh, coal-fired environments on both dry and wet smoke stacks. The system can also conform to PS-30B sampling system requirements as well.

### Description

The M&C Sorbent Trap Sampler serves as a reliable sorbent trap sampling system, which continuously provides repeatable, precise and NIST-traceable sampling from both wet and dry smoke stacks.

M&C's technician-friendly probe design allows for quick, safe access to the two sorbent traps via a cam-lever coupler, and can be fitted with a custom monorail system for easy probe insertion and removal by a single operator. All probes are provided with an impact shield to protect sorbent traps from high particulate matter, entrained water droplets and breakage.

A separate, wall-mounted sampling control system is connected to the probe via a heated umbilical. This NEMA 4X fiberglass enclosure, typically mounted in a temperature-controlled CEMS shelter, contains all of the components necessary to meet the EPA's sampling require-

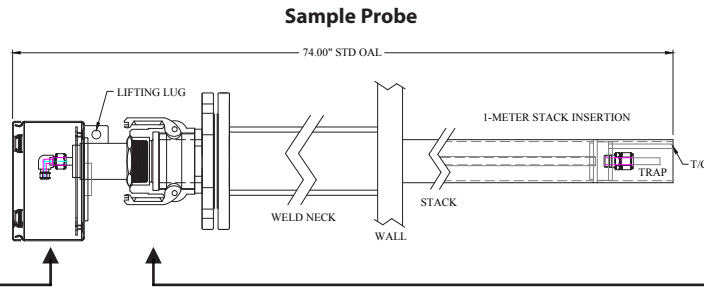
ments for PS-12B & PS-30B. The hardware is integrated in such a way to ensure easy access for the technician. In addition to the standard features already mentioned, the sampling system components include: variable speed DC sample pumps, vacuum transducers, acid traps with aluminum oxide/desiccant blend, peristaltic pumps for moisture removal, filters and electronics. Calibration routines and system integrity checks are semi-automated, or performed manually using the user-friendly touch screen. Proportional sampling is adjusted using a Modbus input from your plant's flow monitor.

Additional system options include: automated moisture measurement, automated in-system mass flow calibration and verification using an external battery operated mass flow meter, environmentally sealed and temperature controlled enclosure, trap purge for delayed start, leak check vacuum release, quad parallel sampling channels, sorbent trap cartridge carriers, analyzer stand if wall mount is not available, monorail probe support for single operator probe handling, sparger to keep trap temperature below 400 °F (204.44 °C), and remote access/control via PC (server based), portable TechPad or smart phone. Custom PLC programming is available to suit your requirements.

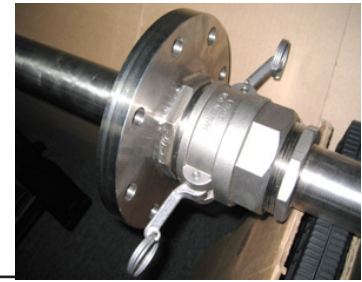




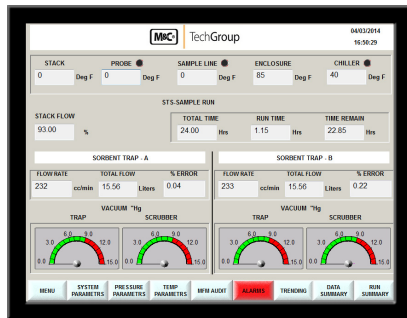
Inside Probe Box



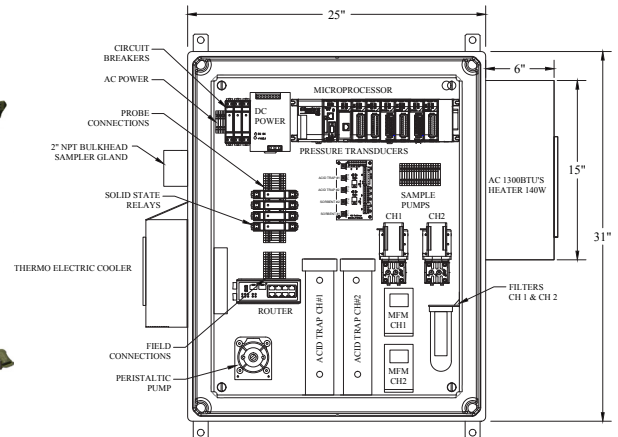
Sample Probe



Cam Lever



Sample Control System



## Specifications

Enclosure Dimensions (H x W x D)	31" x 28" x 12.35"	(787.4 mm x 711.2 mm x 313.69 mm)
Enclosure Weight	115 lbs. (52.2 kg)	with air conditioning
Probe Weight	65 lbs. (29.5 kg)	with 59" (1.5 m) length probe
Ambient Temperature	Min. 40 °F; Max. 110 °F (if uninsulated)*	(Min. 4.4 °C; Max. 43.3 °C)
Max Distance Probe – Control Enclosure	about 750 Feet	(about 228 m)
Probe Mounting	*4" or 6" 150 lb ANSI Flange	
Communications	TCP/IP, Modbus (Fiber Optics Optional)	
Flow Rate	80 to 2000 cm <sup>3</sup> /min	
Power	875 W @ 115 VAC or 230 VAC	

\*Standard. Other versions available upon request.