



Control and cooler unit of the portable sampling system

Portable sampling system for adsorption tubes (sorbent traps)

Special Features

- **Designed for 1/2 hour averages and long-term measurements up to 2 weeks**
- **Probe material stainless steel or Hastelloy**
- **Simple replacement of the adsorption tubes**
- **2 parallel sampling channels for 10 mm adsorption tubes**
- **Automatic leakage tests before and after the collecting cycle**
- **Flow rates 34 to 1460 cm³/min**
- **Alarm monitoring of parameters**
- **Peltier cooler for condensate separation**
- **Travel-friendly storage of the control and cooler unit in two mobile and portable plastic cases with casters**

Application

The mobile sampling system STS (Sorbent Trap Sampler) meets the requirements of DIN CEN/TS 17286:2019-07 (mercury measurement with Sorbent Traps). The functional principle is a volumetric flow device with which a defined volume flow is passed through adsorption tubes. Quality assurance is ensured by the use of two independent volume flows. In addition, the adsorption tubes contain up to six sections. The criteria which these sections must meet are defined in the relevant regulations. The actual analysis of the adsorption tubes then takes place in the laboratory.

Typical applications are sampling in flue gases from combustion plants. In addition, this device is a very efficient tool for separating mercury from flue gases.

Downstream of the probe there is a cooler to separate the condensate. For volume control of the flue gas, pumps and mass flow controllers (MFCs) are controlled by the PLC.

The main components of the system are the sample probe for the sorbent traps, the heated sample gas line, the cooler, the volume flow control, the vacuum sensors, the peristaltic pumps for condensate removal, the filter and the electronics.

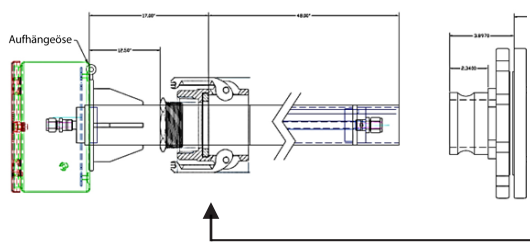
Calibration routines and system integrity checks are performed semi-automatically or manually using the user-friendly software.

Description

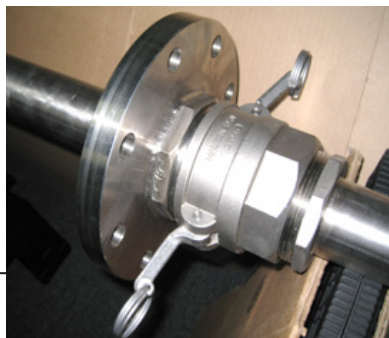
The M&C Sorbent Trap Sampler (STS) is a reliable and precise sampling system for the determination of total mercury in flue gases. The realistic detection limit is in the single-digit nanogram range, with a reproducibility of approx. 5 to 10 ng. The adsorption tubes are inserted into the heated probe and removed after a defined and programmed collection cycle. If required, the probe can be equipped with new adsorption tubes for further collection cycles. The adsorption tubes in the probe are tested for gas tightness before and after each collection cycle. The device is controlled by a front panel PC and an internal programmable logic controller (PLC). All relevant data is recorded and documented in an individual protocol.

Technical Data

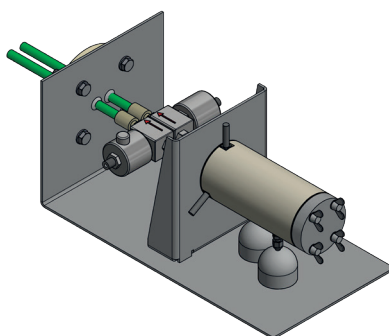
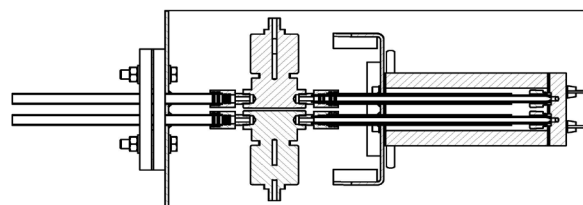
Sample Probe



Cam Lever

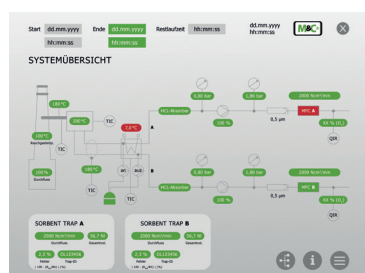


Sample Probe with Sorbent Traps



**PATENT
PENDING**

Control and Cooler Unit



Specifications

Ambient temperature	5 to 40 °C [41 to 104 °F]
Probe mounting	*4" or 6" 150 lb ANSI Flange or DN 65 PN 6
Communications	TCP/IP, PROFINET
Flow rate	34 to 1460 cm ³ /min
Power	220 V AC 1500 W for 5 meter sample gas line
Weight of the cases	Cooler unit: approx. 16 kg [35 lbs], control unit: approx. 16 kg [35 lbs]
Probe weight	Approx. 18 kg [40 lbs]
Option	SilcoNert [®] *** coating available on request

*Standard. Other dimensions available upon request.

** SilcoNert[®] is a registered trademark of SilcoTek[®]