



## Fixed system for dioxins sampling on stack emissions

# DECS

### Dioxin Emission Continuous Sampling

#### SYSTEM FEATURES

DECS is an automatic sampling system, realized for permanent installation on stacks, dedicated to "long terms" Dioxins and Furans collection (PCDD/PCDF) and other POP's.

- Sampling of PAH's with Filter/Condenser Method and adsorbing trap on the wet gas in accordance with methods EN 1948 and USEPA 23;
- The Control Unit can manage up to 4 Sampling Units;
- Distance between Sampling and Control Units can be up to 100mt
- Fully automated sampling, no operator's presence required;
- Preparation and washing operations are automatic;
- Full Remote Control via Internet or Intranet;
- The DECS can be easily upgraded to comply to other standards using the heated probe with out stack box for solid phase and side sampling for gas pahse such as for Heavy Metals, Hg and HCl.

The DECS is composed by 2 units:

- **Sampling Unit**
- **Control Unit**

Suggested distance between the two units is 50 meters

#### Sampling Unit



The Sampling Unit is the part installed on the stack sampling point and is responsible for the sample extraction, without altering its composition, and collecting the solid and gas phases on the appropriate device.

The Sampling Unit is composed by :

- Heated Probe with interchangeable nozzle
- Heated box for filterholder
- Condensation system
- Adsorbing Trap for XAD2
- Pitot Tube ( optional )

#### Process Characteristics

- Stack velocity range: 3 ÷ 40 m/s
- Stack Temperature: max 350 °C
- Water content: max 40% in volume





The sampling unit has been designed according to the following requests:

- Ready to work in any moment
- There is no need to put in or out the stack for each sampling
- Particulate collecting filter enclosed in a heated box
- Easy substitution of filter holder cartridge, adsorbing trap and collection devices
- Made of Glass or Titanium
- Designed for outdoor mounting
- Applicable with DN 150 (on request DN 100) sampling port
- Dimensions: 600 x 700 x 350 mm (w x h x d)
- Weight: 37 Kg

### Control Unit

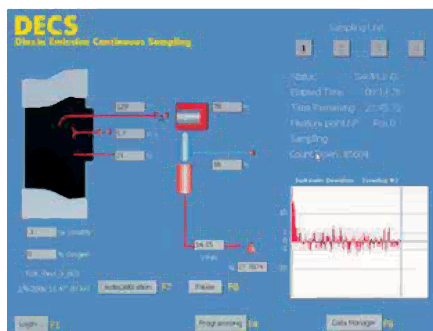
The control unit is the interface between the sampling unit and the operator who leads all the system function; it is generally placed in a safe area easily reachable.

Realised in an industrial cabinet, it is connected to the sampling unit through electrical and pneumatic connections.

It has measurement and control devices built-in, useful to guarantee in an automatic way the measurement execution according to the laws in force.

The available interfaces are a LCD 10" screen, a keyboard, a printer and an internet/Ethernet connection.

The high automation of the system allows to begin the measurement through the START option which can be activated via Internet/Intranet as well.



At the end of the measurement a summing up report containing all the necessary elements to calculate the concentrations and the subjective valuation of the measurement quality is produced; it is also available a continuous registration of the main parameter and anomalous situation.

The control unit has been designed and built to satisfy the following specifications:

- Full automatic isokinetic control
- Temperature and sample conditioning automatic control
- Automatic Leak test
- Accurate Sampled volume measurement
- Graphic interface managed by a self-driven software
- Built-in thermal printer
- Data logger
- Internet/Ethernet connection
- Four analog inputs
- Input signal concerning the process operation status
- Fault system status output signal
- Power supply: 200 VCA 50 Hz 16 A
- Air supply: 6 bar, oil free
- Dimensions: 600 x 1800 x 600 mm (w x h x d)
- Weight: 93 kg

### Accessories

- Forced cooling system
- Filter device choice for low or high concentrations
- Spare XAD2 cartridge
- Stack velocity measurement

