TCR TECORA
POLLUTION CHECK

OUTDOOR
AIR QUALITY

Compliant with:
ISO 12884, ISO 16362, US EPA TO9, US EPA TO13A, UNI EN ISO 5167

SEE THE PAGE ONLINE

Micropollutants High Volume Sampler

ECHO HiVol

MAIN FEATURES

- According to:
  - > **ISO 12884** (particulate/gas)
  - > **ISO 16362** (particulate)
  - > **US EPA TO9** (particulate/gas)
  - > **US EPA TO13A** (particulate/gas)
- Electronically controlled flowrate to standard and actual condition;
- Large graphic display back-lighted with keyboard and RS232 interface;
- Programming with permanent clock;
- Sampling time with 1" resolution and selectable from 1' to 168h;
- Measured and stored parameters:
  - >Flowrate;
  - >Total volume;
  - >Ambient temperature;
  - >Ambient pressure;
  - >Filter load.
- Capable of storing up to 60 sampling reports;
- Capable of storing the sampling flow with 5 minutes interval;
- Light alloy cabinet of small size and light weight suitable for outdoor mounting;
- SMS remote control; (*)
- Sample conditioning depending on wind direction and velocity. (*)

** Optional*

ECHO HiVol is a "stand alone" automatic instrument designed to be used outdoor even in severe weather conditions.

The Venturi gas meter used is made according to ISO 5167 standards.

This kind of gas meter gives many advantages compared to other flow measurement systems:

the measures stability in the long term, the capability of being used with all weather conditions, a reduced sensitivity to stain thanks to the gas meter self cleaning profile and the absence of elements which are sensitive once in contact with inhaled air.

The flow measure and regulation in relation to actual condition, make ECHO HiVol a unique instrument.

Cabinet's lock details

This feature allows the user to change the sample head and flow rate without recalibrating the flow meter.

ECHO HiVol is equipped with a three stages brushless blower, practically maintenance free, and its averaged life is higher than 20000 hours (more than 2 non-stop operating years).

INNOVATION MADE IN ITALY

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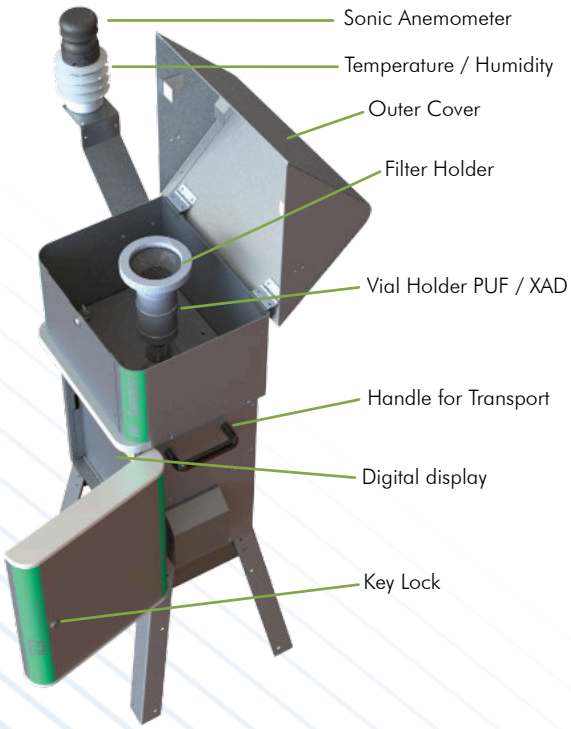
Two sampling inlets are available, PUF and TSP. These are freely interchangeable.
The PUF sampling module with filter holder of 102 mm and adsorbing cartridge (for PUF or XAD2) of 58 x 125 mm allows simultaneous sampling of particulate and gas fractions with flow rate between 180 and 220 l/min.
In alternative a filter holder for total particulate (TSP) on membrane of 150 mm diam. is available.
This is required for working up to a 500 l/min flow.
Possibility to monitor PM10, PM2.5, PM1, real time trend concentrations, 24 sizes classes particle distribution, CO_2 and relative humidity.

TECHNICAL CHARACTERISTICS

Range	100 - 600 l/min (6 - 36 m^3/h)
Pump	0,1 l/min
Used Pump	4 stages brushless blower 60m^3/h
Pump Maintenance Interval	20000 operating hours
Power Supply	220/240 Volt 50Hz (3.5 A)
Operational Condition -5÷+45°C Low Temperature Kit	-5°C + 45°C (-20 +45°C con kit basse temp.*) **AA99-009-9901SP**
Size mm (w x d x h)	440 x 340 x 830 (without stand)
Weight Kg	15 Kg
ECHO HiVol Sampler	**AA99-020-0000SP**
PM10, PM2.5 e PM1	OPC Real Time
Dimensional Classes	24
CO_2 and Relative Humidity	Real Time



Detail of sampling module and PUF cartridge with caps

AA99-020-0010SP

Detail of filter holder for the collection of Total Particulate Matter PTS.

AA99-020-0020SP

ECHO HiVol

ECHO HiVol

PM REAL-TIME MONITORING

Optional solution for real-time monitoring of dust (optical particle counter). Allows real-time monitoring of the concentration trend of PM10, PM2.5, PM1 (mg m-3), and numerical concentration distribution of particles in 24 size classes. Range: 0.35 to 40 mm. Max count: 10000 p/sec. Max conc: 2000 mg m-3. High temporal resolution (1 Hertz) measurement of the concentration trend of airborne dust of anthropogenic and biogenic origin (e.g., pollen). Measurement of temperature (T) and relative humidity (RH). Instantaneous data visualization at 5" display (X1 Series Samplers), saving final data in full sampling report and downloading log and report file via USB (USB pen drive memory).

Remote real time data display and download via APP - TCR Tecora® (optional).

REAL TIME DATA
+24 dimensional class

PM10	PM2.5	PM1
34,22 ug/m³	18,15 ug/m³	09,19 ug/m³

ACCESSORIES, SPARE PARTS AND CONSUMABLES CODES

Aluminum stand	AA99-020-9900SP
Wind direction / speed interface	AA99-009-9907SP
Wind direction / speed sensor	AA99-009-9908SP
GSM modem	AA99-020-9903SP
Software to download data	AA99-009-9909SP
Calibration kit	AA99-020-9905SP
PUF sampling module	**AA99-020-0010SP**
Spare glass cartridge	AA99-020-0011SP
2 PTFE end caps for cartridge	AA99-020-0012SP
25 quartz fibre filter 102 mm diam. box	AA99-016-9950CR
100 glass fibre filter 102 mm diam. box	AA99-016-9951CR
10 PUF cartridge h75 mm box	AA99-016-9955CR
10 PUF cartridge h50 mm box	AA99-016-9956CR
PUF aluminum canister for shipping	AA99-020-0019SR
Filter holder for TPS diam. 150 mm	**AA99-020-0020SP**
25 quartz fibre 150 mm diam. box	AA99-018-9910CR
50 quartz fibre 150 mm diam. box	AA99-018-9911CR

** Optional*

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