Automatic Isokinetic Sampler

EmiTest ISO

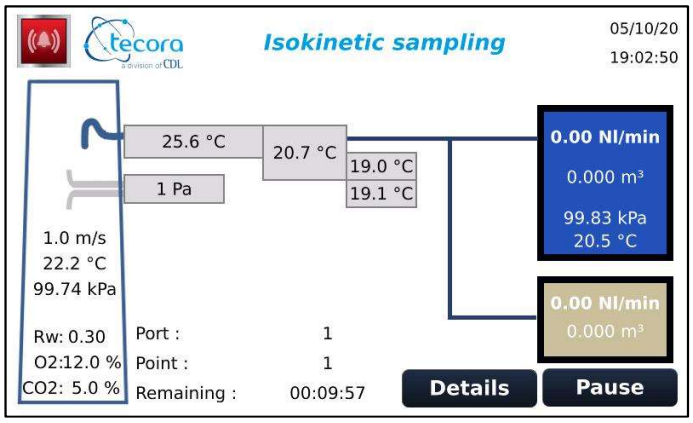
Description

EmiTest *Iso* is the last generation of isokinetic samplers compliant with international testing methods:

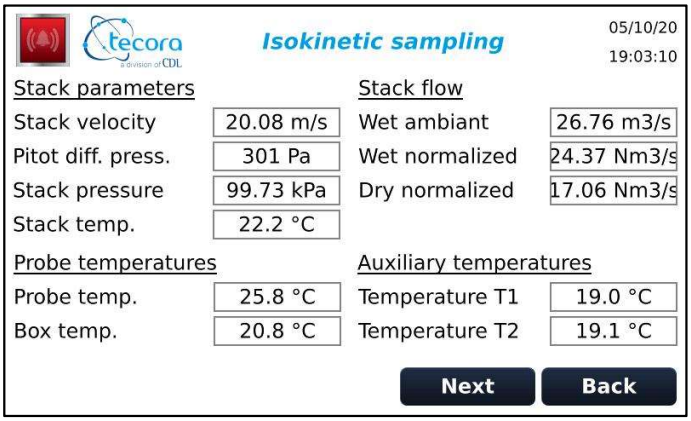
- EN13284-1
- US EPA M5
- USEPA M17
- ISO9096

It combines our knowledge on isokinetic samplers with new approaches to ensure:

- Better data quality and reliability,
- Easier use on stack,
- Time saving,
- Workers safety.



Sampling main view



Data in sampling view

Main specifications

- Fast isokinetic control at any stack condition.
- Volume measurement with dry gas meter.
- Sampling flow measurement with differential pressure flowmeter.
- In-stack temperature and velocity measurement.
- Autotest and anomalies management.
- USB interface to download data.
- Large color touchscreen.
- Wide library to recorded ducts specifications.
- Data logger enabling data download on USB key.
- Large internal memory (16 GB).
- Reduced maintenance.
- ISO17025 accredited laboratory certificate (optional).

Technical specifications may change without previous warning

tecora a division of CDL
Headquarters: Rue Anne Gacon-Village Entreprise St Henri Bât. n°23, 13016 Marseille
Office CDL – Tecora: 10 rue de la Prairie 91140 Villebon sur Yvette
Phone: +33 (0)1 81 87 08 84 - www.tecora.com

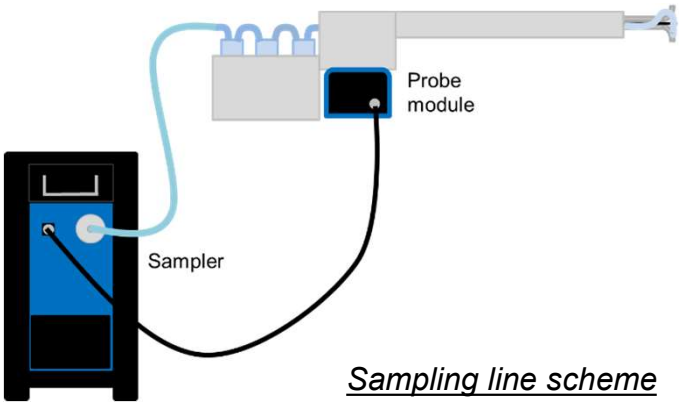
Probe module

One of the main innovation of EmiTest *Iso* is the probe module. This module, directly attached on probe, manages:

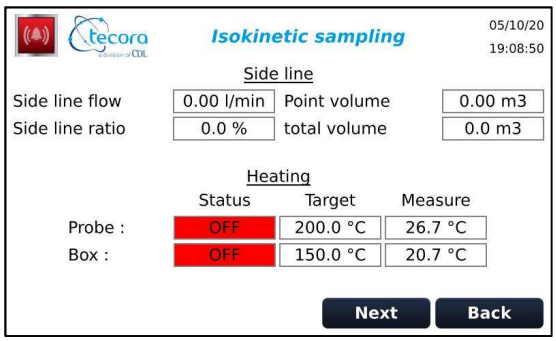
- Velocity measurement sensors: Pitot differential pressure, stack pressure and temperature,
- Probe and box heating control,
- Bath and impingers temperature measurement,
- Angle measurement (optional).

Main advantages are:

- Better accuracy of differential pressure measurement (shortest distance between sensor and Pitot head)
- Lighter umbilical cable
- Deported screen plugged on probe module for sampler remote control (optional) : avoid manutention of EmiTest *Iso* on stacks' platforms.



Sampling line scheme



Side line and probe and box heating control view

Probe module on sampling probe

Main features

- 3 modes: velocity measurement, isokinetic sampling, constant flow sampling.
- All sensors can be calibrated in 5 points by user for optimal data quality.
- Calibration reports are registered in memory.
- Pitot and Stack library (over 100 capabilities) with nozzle utility
- Leak test menu
- User customizable settings (Normalization conditions, performance tests routines…)
- Water sensor for instrument protection
- Automatic autozero and functional checks during start up.

Reliability

EmiTest *Iso* is equipped with industrial class electronics.
Data are saved on an independent and secured memory to avoid data loss.
Internal check routines are performed automatically to insure good instrument functioning.
Internal water sensor stops pump when liquid enters the system to protect sensible parts.
Casing is designed to be user-friendly but also fieldproof.

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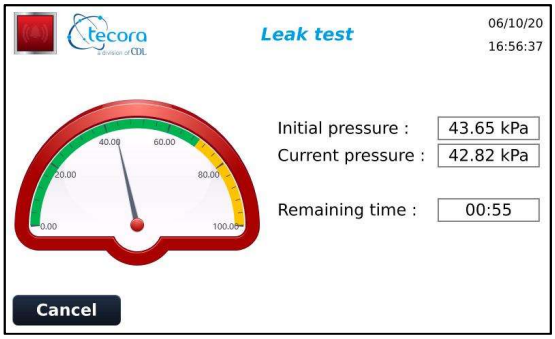
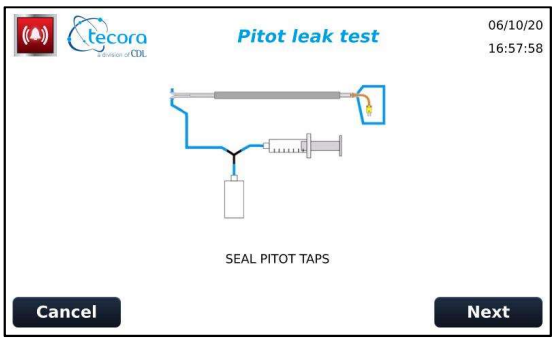
New features

- Sensors test mode with results saved in memory for better QA/QC management
- Angle measurement (optional)
- Swirl angle and wall factor measurement
- Stagnation check
- Pitot leak check
- New leak test calculation
- Large choice of languages
- Possibility to set the alarms (for each measure : alarms levels, alarm delay, effect of alarm…)
- Deported screen plugged on probe module for sampler remote control (optional)



Leak test view



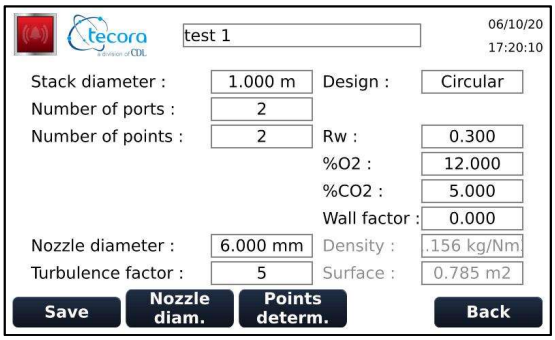
Pitot leak test view

User-friendly

New user interface has been designed to be used easily:
- New ergonomic interface for data visualization
- Large touchscreen buttons for use with gloves
- The screen's colors change depending on sampling steps and alarms
- Intuitive navigation.

The instrument is equipped with rapid connectors for smoother use.
Number, size and weight of cables are reduced for easier transportation and safety on stack.

Optional deported screen enables remote control of the sampler. It enables to let sampler on the floor and to go on stack only with sampling probe. Probe modules enable long distance between sampler and probe without data quality loss.

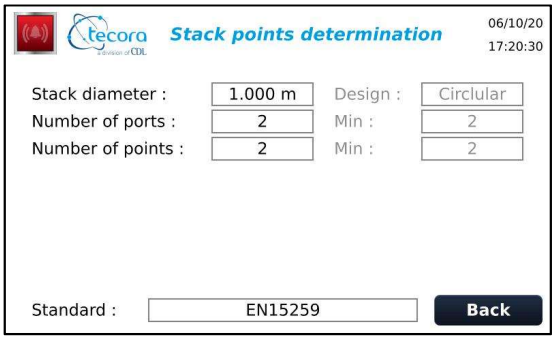


Stack library view

Data management

Instrument is able to produce a large quantity of reports:
- Exhaustive sampling reports,
- Sensors test reports,
- Sensors calibration reports,
- Alarms reports,
- Continuous data acquisition with settable frequency.

All these data are recorded in .csv format in the large internal memory (16 GB) and can be downloaded on USB stick.
Reports can also be printed with a thermal printer (optional).



Points determination tool view

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Technical characteristics

Differential pressure (Pitot and flowmeter)	
Range	± 6689,5 Pa (equivalent to +/-1 Psi)
Accuracy	Better than 1% of measure
Resolution	1 Pa
Differential pressure max	35 kPa
Absolute pressure (static and barometric)	
Range	0 – 103.4 kPa absolute
Accuracy	Better than 1% of measure ± 0.1 kPa
Resolution	0.01 kPa
Temperature	
N° of inlet for thermocouple K type	Up to 3 (2 for heating control + 1 stack temp.)
Resolution	0.1 °C
Thermocouple type K	0 to 1200 °C
Accuracy	1% of measure ± 0.2 °C
N° of PT100 probe	Up to 3 (incl. DGM temperature)
Range	-20 to 80 °C
Accuracy	1% of measure ± 0.2 °C
Resolution	0.01 °C
Volume measurement	
With dry gas meter	G2.5
Resolution	0.1 litre
Accuracy	2%
Flow measurement	
Answering time	500 ms
Differential pressure flowmeter	5 – 40 l/min
Resolution	0.01 l/min
Accuracy	Better than 2%
Range regulation	
Type	Electronic
Answering time	< 5s
General specifications	
Suction pumps	Rotative vane pump 4m³/h
Sampler isolation valve	Solenoid valve
Suction gas filter	Built-in glass fiber
Water sensor	Optic
Gas connections and pitot	Quick connections
Communication ports	USB
Ambient working conditions	-20 to 40°C 95% RH
Power supply	220 Vac 50/60Hz - (100Vac 50/60Hz)
Display	5'' touch screen
Weight	15 kg (Sampler) + 1,5 kg (Probe module)

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