

AMBIENT

AQMS (Air Quality
Monitoring Solutions)

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PARTICULATE MONITORS & SAMPLERS

MP101M

β-ray attenuation Analyzer

Particle concentration measurement of PM10, PM2.5 and PM1 using the Standard Reference Method



- Particle concentration measurement ($\mu\text{g}/\text{m}^3$)
- Built-in reference gauge for calibration: no need for factory recalibration
- Temperature-regulated sampling tube
- True volumetric air flow control
- Rugged instrument, not sensitive to vibration or humidity
- Equipped with large, 7" colour touch-screen with animated, real-time display
- Interchangeable sampling heads PM10, PM2.5, PM1 and TSP
- 3 years of autonomy of continuous daily sampling

OPM

Optical Particulates Monitor

Simultaneous and real-time optical measurement of all types of particles PM1, PM2.5, PM10 using a single TSP inlet



- Real time optical indication and trends of the particles' concentration ($\mu\text{g}/\text{m}^3$)
- Particle counting (nb/L)
- Automatic calibration of the real time optical module (OPM) to the reference measurement (β gauge)
- Measurement of the size (0.5 to 40 μm) and quantity for each particulate size range
- Autonomous, automatic and capable of detecting short events with high precision
- Smart and automatic adjustment system integrated: no need for factory recalibration

PM162M

Automatic Sequential Particulate Sampler

Designed to automatically sample particulates on filters using a TSP, PM10, PM2.5 or PM1 inlet



- Compliant with the last EU CEN recommendations for PM2.5 sampling and measurement
- Large filter holder capacity allowing up to 3 weeks of unattended daily sampling of particulate matter
- True volumetric air flow control with atmospheric temperature and pressure sensors to avoid artefacts in the size fractionating inlet
- Unique temperature-regulated sampling tube eliminating artefacts on the filter (evaporative losses of semi-volatile particulates...)

SAMPLING INLETS



PM 10 - EN 12341
PM 2.5 - EN 14907



PM10 louvered
US-EPA



PM 2.5 VSCC adapter
US-EPA



TSP
US-EPA

Other sampling inlets for research or specific applications are available upon request, such as PM1 for Europe and US-EPA

SENSOR BASED AQMS MINI-STATIONS

CAIRNET® - NEW GENERATION

Multi-parameter & autonomous mini-stations

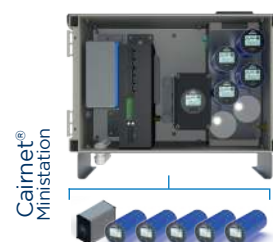
Provides optimal coverage and measurement of air pollution over a vast area with centralized data management in the cloud or a central server.



- Real time continuous measurement and monitoring of up to 6 gaseous and particulate pollutants simultaneously, among: $\text{H}_2\text{S}/\text{CH}_4\text{S}$, NH_3 , nmVOC, O_3/NO_2 , NO_2 , CO, SO_2 , PM, plus, in option, environmental parameters: speed, direction, temperature, relative humidity and pressure.
- Wireless transmission of data to a central interface: Radio, GPRS, 3G...
- Plug and play: add another station at any time
- Easy to deploy and to use with independent solar panels
- Does not require maintenance, and is calibration-free for 1 year of use.

MAIN APPLICATIONS:

Odor monitoring • Workplace Monitoring • Indoor and outdoor air quality monitoring • Mobile Hotspot Monitoring • Leak detection and monitoring of fugitive emissions...



Up to 6 Cairsens® micro-sensors



ENVEA calibration bench



« CairCloud® » software included for data acquisition & processing

GAS MONITORS



e-Series analyzer (AC32e)

The e-Series of analyzers has been fully eco-designed, with a special consideration to the environmental impacts of the product during its whole life-cycle.

The exclusive «inside the box» recyclable foam modular concept makes the product more robust, power saving, simpler to service and eco-friendly.

MAIN ADVANTAGES:

- > Environmental friendly: Low carbon footprint / Over 95% of the analyzer can be recycled / Ultra low power consumption / Common electronic boards: optimized spare parts stock
- > SmartStatusLight™ power button for status of operation (ON/OFF, Alarm, Maintenance required...)
- > Economic, Easy and reduced maintenance
- > Service Assistant inside
- > Interactivity: Smart, connected instruments



Download the app & keep your equipment updated



Access the services available in the cloud



ENVEA Connect™
Free App
iOS & Android

AC32e

Chemiluminescence Nitrogen Oxides Analyzer | **NO, NOx & NO₂**

CLD based analyzer offering superior metrological performances for NO, NOx and NO₂ measurements in the range 0-1 ppm or 0-10 ppm

- Option: external module for NH₃ monitoring (Max 1 ppm)
- Option: Built-in permeation bench with NO₂ tube

O342e

UV Photometric Ozone Analyzer | **O₃**

Provides accurate O₃ measurements in the range of 0 - 500 ppb to 0 - 10 ppm

- Option: internal O₃ generator (span check)

CO12e

IR-GFC Carbon Monoxide Analyzer | **CO**

IR-GFC analyzer designed for high sensitivity monitoring of low CO concentrations in the range of 0-50 ppm to 0-300 ppm

- Option: CO₂ measuring module (max 2000 ppm)

AF22e

UV Fluorescence Sulfur Dioxide Analyzer | **SO₂**

Uses UV radiation to measure SO₂, with excellent performance, for a range from 0-10 ppm to 0-1 ppm

- Option: module for H₂S or TRS monitoring (max 1 ppm), special configuration for TRS measurements in CO₂ matrix
- Option: Built-in permeation bench with SO₂ tube

HC51M

FID Hydrocarbons Total VOC Analyzer | **THC**

Uses the principle of flame ionization detection to measure the concentration of hydrocarbons

- Option: THC / CH₄ / nmHC (Total Hydrocarbons, methane & non-methane hydrocarbons) converter
- Option: zero air internal generator

AS32M

CAPS Spectrometry Nitrogen Dioxide Analyzer | **NO₂**

Designed to provide the most accurate value for 0-1 ppm NO₂ concentrations

- Option: Built-in permeation bench with NO₂ tube

VOC72e

Gas Chromatography Volatile Organic Compounds (BTEX) | **VOC BTEX**

BTEX automatic analyzer based on gas chromatography (GC) coupled with a photo-ionization detector (PID) for 0-300 ppb measurements range (Benzene). Carrier gas: H₂

- Option: up to 40 other VOC compounds (max 2000 ppm)

UT-3000

Total Gaseous Mercury (TGM) Mercury Ultratracer | Hg

Total Gaseous Mercury (TGM) measurement in the air at ultratrace levels based on the Cold Vapor Atomic Absorption Spectrometry (CVAAS) method (EN 15852).



A compact and reliable measuring tool with a specialized trapping system – Mercury GoldTrap Amalgamation module:

- Offers excellent long-term stability of measurement.
- Enhances sensitivity of the analyzer and dismisses the necessity of a long optical cell for the detection phase.
- A high frequency electrode-less mercury low pressure lamp as a UV light source provides high sensitivity, precision and stability.
- Unlike with the fluorescence detection method, the analyzer does not require expensive operation gases, nor suffer from negative interferences caused by the quenching effect.
- The analyzer offers sensitivity and detection limits superior to other mercury analyzers on the market using similar technologies.

MGC 101

Multi-gas Mass Flow Dynamic Calibrator



- Manual or remote multi-point generation of gas concentrations from one to several high concentration span gas cylinders
- Internal ozone generator : Standard or Photometer for GPT mode
- Built-in permeation benches, for most of the certified permeation tubes disposable type (SO₂, NO₂, H₂S, NH₃...)

ZAG 7001

Pure air generator



- Check of zero point
 - Supply of dilution air for calibration systems and zero air for dilution-based samplers and calibrators
 - Option: CO & HC internal heated catalytic scrubber
- Purity: > CO < 25 ppb
> NO₂, SO₂, O₃, H₂S < 0,5 ppb
> HC (including CH₄) < 20 ppb



XR® SOFTWARE: DATA ACQUISITION & MANAGEMENT SYSTEM

Now available on the **Cloud** features and fully compliant with constantly changing international guidelines and standards, the XR® software suite provides breakthrough

- > Acquisition, processing and display of any type of environmental data: gas and dust analyzers, meteorological sensors, samplers, ...
- > Advanced tools for statistics, validation and reports
- > Exclusive system of automatic data validation
- > Advanced control of the measurement chain
- > Input and import of analysis results
- > Traceability and high availability of the raw and validated data

COMPLIANCE WITH:

- European Directive 2008/50/CE
- AFNOR NF X 06-044 norm
- ISO 7168-1: 1999



RECAP BOARD

REFERENCE MONITORS	AC32e	O342e	CO12e	AF22e	VOC72e	HC51M	AS32M	UT3000	MP101M
Measured pollutant (option)	NO-NO ₂ -NO _x (NH ₃)	O ₃	CO-CO ₂ (CO ₂)	SO ₂ (H ₂ S/TRS)	BTEX	Total HC (CH ₄)	NO ₂	Hg	PM 10 PM 2.5
Ranges user selectable & programmable (ppm)	0-1 / 0-10	0-1 / 0-10	0-50 / 0-300	0-1 / 0-10	max. 1	0-10 / 0-1000	0-1	0-10	0-10
Detection Limit (2σ) (ppb)	< 0.2	0.2	<20	< 0.4	≤ 0.05 (benzene)	50	0.1	0.1	0.5 (/24h)
19" rack enclosure	3U	3U	3U	3U	3U	4U	3U	3U	6U
Weight (kg)	10	9	7.1	9.5	12.5	27	12.5	9	15

MICRO-SENSORS	O ₃ / NO ₂	NO ₂	CO	NH ₃	SO ₂	nmVOC	H ₂ S / CH ₄ S	PM1, 2.5 & 10
Resolution (ppm)	0-0.25	0-0.25	0-20	0-25	0-1	0-2 0-16	0-1	0-1
Detection Limit (2σ) (ppb)	20	20	50	500	50	500 200	10	N/A

The ENVEA's monitoring solutions are European QAL 1 certified and in compliance with the latest international regulations & standards.

They are also approved and certified by various laboratories and organizations around the world such as: US EPA, TÜV, GOST, CEN, JQA, CNEMC, JMOE, KTL, CNSA, LCSQA...



CUSTOM-TAILORED DESIGN & ENGINEERING OF YOUR AQMS PROJECTS

We design, assemble, calibrate and operate complete integrated systems for simultaneous and continuous measuring of multiple pollutants (gases & particulates). We operate on a worldwide basis with hundreds of active real-time environmental monitoring sites.

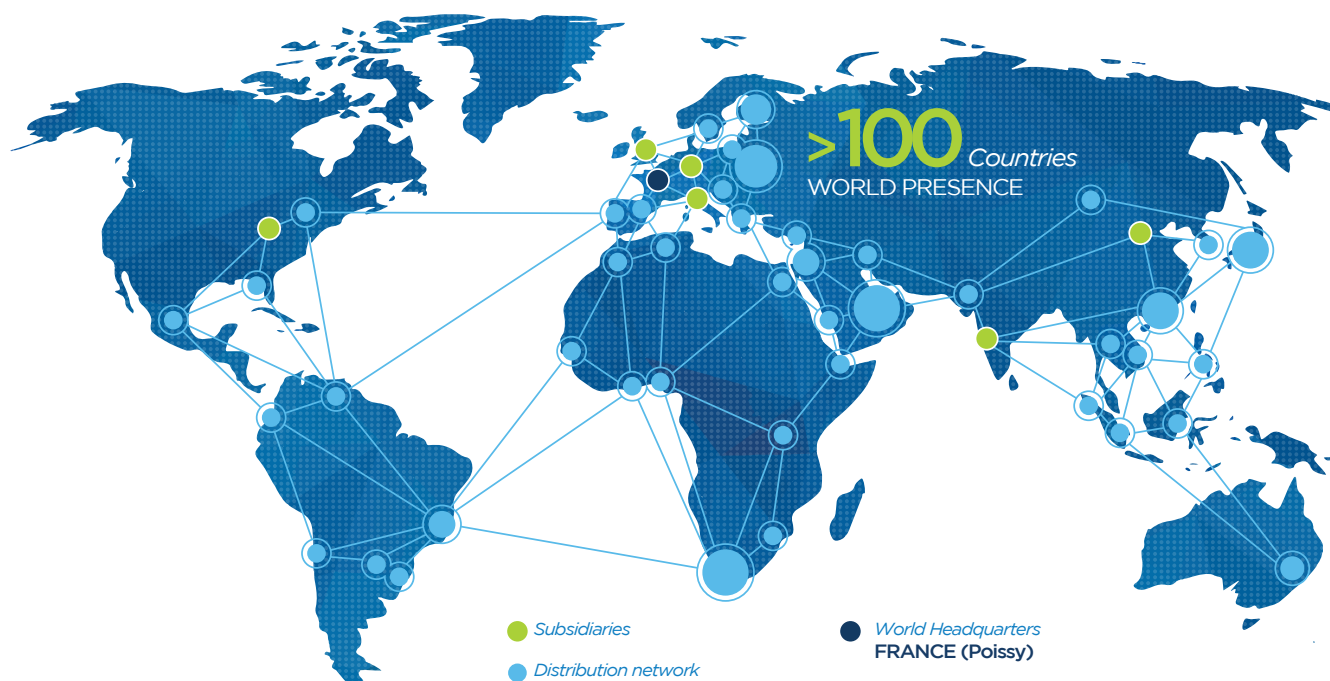
Integrated instruments and customized systems

- > Fixed monitoring stations for continuous measurements and analysis of gases and air pollutants
- > Mobile laboratories that help examine the air quality at various locations, as well as the geographic distribution of air pollution
- > Complete multi-parameter monitoring networks, including Hybrid installations (reference stations & micro-sensors), with automatic data acquisition, processing & reporting.



A STRONG GLOBAL PRESENCE

Faithful to the principles on which it was founded – innovation & quality, social responsibility & shared values – the **ENVEA** group is committed to providing you with solutions and assistance at the highest standards in order to comply with applicable regulations; as well as the optimization of industrial processes for an improved efficiency, significant savings of raw materials & energy, the reduction of environmental impacts...



Our worldwide references guarantee a perfect understanding of your needs and ability to manage a vast range of applications:

More than 40 000 air quality monitors are measuring the pollution of cities worldwide: Rio de Janeiro, Istanbul, Seoul, Mecca, Delhi, Hanoi, Paris, Budapest, Abu Dhabi, Bangkok, Dakar, Beijing...

Over 30 000 industrial sites (emission sources & processes) are monitored worldwide across a broad range of industries such as: cement plants, glass manufacturing, metal factories, paper mills, engine manufacturers, waste to energy plants...

Process - Emissions - Ambient
monitoring solutions



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