ENVIRONNEMENT S.A designs and produces a complete range of state of the art analyzers, sampling systems, data acquisition and software for the measurement and reporting of regulatory pollutants such as: **SO_2, NO, NO_2, NOx, CO, CO_2, CH_4, THC, nmHC, NH_3, H_2S, TRS, O_3, VOC, Temperature, Flow, Hygrometry, Particulates...**

CUSTOM-TAILORED DESIGN AND ENGINEERING OF YOUR AQMS PROJECTS

- First, we review and study your monitoring requirements.
- Next, we design, engineer and manufacture the best solution to meet your specific needs.
- Prior to shipment we perform a factory acceptance test of the complete system to ensure highest quality and optimal performance.
- Finally, we perform commissioning and start-up of your AQMS.
- From CAD drawings to assembly, testing and commissioning, we provide the complete engineered solution.

Our commitment to your satisfaction continues beyond installation

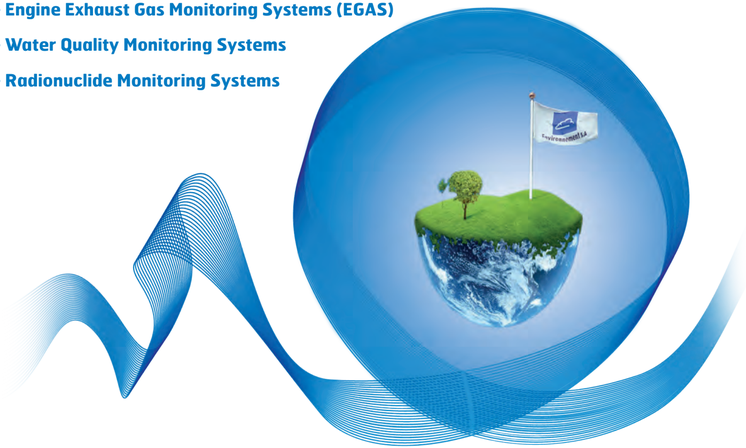
- After your AQMS is installed, you can rely on our technical staff for on-site user training, certification testing, direct and fast access to spare parts and all necessary support you may require.
- To ensure maximum performance, you can also select monthly, quarterly or yearly maintenance contracts, including QA/QC audits required by regulatory agencies.

▶ **Our solutions are in compliance with latest regulations and standards**
▶ **Our monitoring systems are worldwide approved and certified (TÜV, MCERTs, CEN, US EPA, GOST, NF, J-MOE, KEMA...)**

ENVIRONNEMENT S.A is a world-wide designer and manufacturer of high-precision **measuring instruments and analyzers approved by international institutes and authorities**.

We are committed to provide Best Available Techniques (BAT) and highest quality products and services for main **continuous monitoring applications:**

- **Air Quality Monitoring Systems (AQMS)**
- **Continuous Emission Monitoring Systems (CEMS)**
- **Engine Exhaust Gas Monitoring Systems (EGAS)**
- **Water Quality Monitoring Systems**
- **Radionuclide Monitoring Systems**



With more than three decades of activity and experience, our brand name has become internationally renowned and is identified as image of **accuracy, reliability, leading-edge technology and innovation**. Environnement S.A is committed to research and innovation permanent investment for developing new products to meet the ever-changing technical and regulatory needs of our industries.

Our broad analysis products range is also supported by one of the largest worldwide sales and service organisations, of nearly 80 expert Companies and Partners. This strong international presence is further sustained by our corporate-owned subsidiary organisations in Italy, Germany, China, India and the United States of America.

Environnement SA's factory trained Field Service Team provides expert services (hands-on and technical support) for your equipment all over the world.

As supplier to the environmental fields, we integrate environmental factors into our day-to-day activity. This has resulted in the development of Quality and Environment management systems that meet the requirements of ISO standards **9001** and **14001**.

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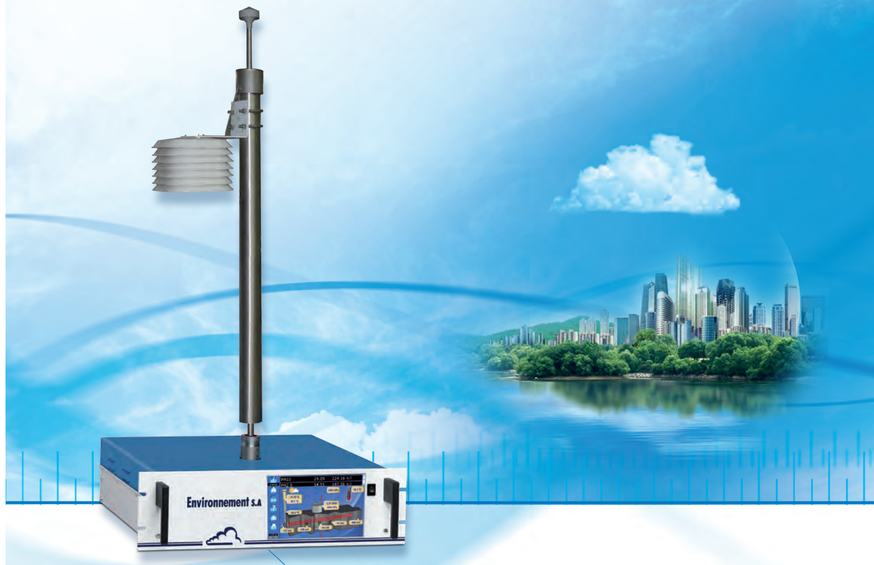
Environnement S.A
Instrumentation for the environment



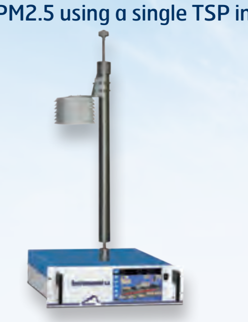
AIR QUALITY MONITORING SYSTEMS

PARTICULATE ANALYZERS AND SAMPLERS

CPA

Continuous Particulates Analyzer

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



- Provides information on the concentration, size and the nature of inhalable particles
- Real time calculation of the PM10, PM2.5 & PM1 mass concentration in µg/m³
- Defines automatically the nature of the particulates (salts, carbons, minerals, water droplets)
- Measurement of the size (0.3 to 40 µm) and quantity (in number/cm³) for each size range
- Autonomous, automatic and capable of detecting short events with high precision
- Smart and automatic adjustment system integrated: no need for factory recalibration
- Superior accuracy, precision and sensitivity
- Requires very low maintenance and no consumables
- Equipped with large, 7'' colour touch-screen with animated, real-time display
- Temperature-regulated sampling tube

MP101M-LCD

ß-ray attenuation Analyzer

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

- Particle concentration measurement (µg/m³)
- 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
- Option: real time optical measurement of the particles' concentration (µg/m³) with CPM module
- Particle counting (nb / L)
- Automatic calibration of the optical module CPM to the reference measurement (ß gauge)

Standard compliance: **ISO 10473** : 2000

> **For PM10: US-EPA** (EQPM-0404-151), **EN12341** (I-CNR 087/2004, F-LCSQA)

> **For PM2.5: EN 14907** (F-LECES), **US-EPA** PM2.5 Inlet (RFPS-0498-116), **J-MOE** PM 2.5 Type approved

PM162M

Automatic Sequential Ambient Air Particulate Sampler

Designed to automatically sample particulate on a filter 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
- 5U rack for installation in a rack cabinet
- True volumetric air flow control with atmospheric temperature and pressure sensors to avoid artifacts in the size fractionating inlet
- Unique temperature-regulated sampling tube eliminating artifacts on the filter (evaporative losses of semi-volatile particulates...)
- 2 serial ports for remote access and downloading of stored data

> **EN 12341 certifed** (LECES, n°RC/L 9826)

PARTICULATE SAMPLING INLETS:

NEW: TCP/IP REMOTE CONTROL OF THE ANALYZERS WITH DYNAMIC, MULTILINGUAL INTERFACE

Environnement S.A's analyzers are now integrating an embedded web server featuring intuitive navigation by pictograms and offering quick and easy access to the analyzer, without the use of a special software.

Secured, modern, simple, fast and accessible from any type of browser, the **es@cloud™** interface allows the display, configuration, maintenance, diagnostics or software updating of Environnement SA measurement systems or analyzers, remotely, from any PC, tablet or SmartPhone.

From customising menus with shortcut key functions, "favourite" themes and animated diagrams, everything has been designed for a quick familiarisation and a comfortable use of the analyzers: just ***plug and play!***

GAS ANALYZERS

Thanks to the high range of technologies, Environnement S.A analyzers fit with your application and not the reverse.

AC32M

Chemiluminescent Nitrogen Oxides Analyzer

Uses the Standard Reference Method SRM for the simultaneous measurement of low levels of NO, NO2 and NOx from 0 to 20 ppm

- User programmable ranges and average times
- Highly stable and sensitive analyzer
- Long-life converter oven with interchangeable cartridges
- Built-in storage of 1 year average data
- Graphic Liquid Crystal (LCD) display
- Interactive menu-driven software with real-time synoptic flow diagram display
- *Option:* external converter module for low level NH_3 monitoring (0-1 ppm)
- **ISO 7996 and EN 14211** compliant

Type approvals:

> **TÜV** report n° 936/21205818/C (Germany),
> **US EPA** n°RFNA-0202-146 (USA)

O342M

UV Absorption Ozone Analyzer

Provides accurate O_3 measurements in the range of 0-10 ppm

- User programmable ranges and average times
- Auto-ranging
- Real time calibration graph
- Built-in storage of 1 year average data
- Extremely compact, easy to use
- Full remote emulation of the analyzer
- Graphic Liquid Crystal (LCD) display
- Interactive menu-driven software with real-time synoptic flow diagram display
- *Option:* internal O_3 generator (span check)
- **ISO13964 and EN 14625** compliant

Type approvals:

> **TÜV** report n° 936/21205818/D (Germany),
> **US EPA** n°EQOA-0206-148 (USA)

CO12M

NDIR gas filter correlation carbon monoxide analyzer

GFC analyzer designed for high sensitivity monitoring of low CO concentrations in the range of 0-200 ppm

- Low level CO monitoring
- Temperature-controlled optical bench
- Automatic pressure compensation
- Sealed gas cells
- User programmable ranges and average times
- Full remote emulation of the analyzer
- Graphic Liquid Crystal (LCD) display
- Real-time synoptic flow diagram display
- *Option:* CO_2 (max 3000 ppm) / CH_4 (max 300 ppm) measurement
- **ISO 4224 and EN 14626** compliant

Type approvals:

> **TÜV** report n° 936/21206773/B (Germany),
> **US EPA** n° RFCA-0206-147 (USA)

AF22M

UV Fluorescent Sulfur Dioxide Analyzer

Offers excellent performance for 0-10 ppm SO_2 measurements

- User programmable ranges and average times
- Auto-ranging
- Automatic response time
- Real time calibration graph
- Full remote emulation of the analyzer
- Graphic Liquid Crystal (LCD) display
- Real-time synoptic flow diagram display
- *Option:* Internal module for H_2S/TRS monitoring (max 1 ppm), configuration for TRS measurement in CO_2 matrix
- Compliant with **ISO 10498**, **EN 14212**

Type approvals:

> **TÜV** report n° 936/21206773/C (Germany),
> **US EPA** n° EQSA-0802-149 (USA)

HC51M

Total Hydrocarbons FID Analyzer

Uses the principle of flame ionization detection to measure the concentration of hydrocarbons in the range of 0-1000 ppm

Available in 2 versions for the simultaneous and continuous measurement of:

- THC
- THC / CH_4 / nmHC

- High sensitivity and stability FID detector
- Measurements in the range of 0-1,000 ppm
- Graphic Liquid Crystal Display (LCD)
- Interactive menu driven software
- Auto-ranging
- User programmable ranges and time averages
- Full remote emulation of the analyzer
- Field proven technology and design
- *Option:* internal zero air / external hydrogen generator, internal nmHC convertor

VOC72M

Volatil Organic Compounds (BTEX) Analyzer

Based on gas chromatography (GC) coupled with a photo-ionization detector (PID) for 0-1000 µg/m³ measurements

- Measured compounds: Benzene, Toluene, Ethylbenzene, m+p-Xylene, o-Xylene, 1-3 Butadiene...
- Compact and fully automated, providing equal performance to the laboratory chromatographs
- Robust and low maintenance instrument
- Performs all the functions (sampling, analysis and data management), autonomously
- Automatic calibration and quick check of the chromatogram peaks possible directly on-screen, without the use of a computer
- GC column equipped with liquid-cooler; stable retention times even with a fluctuating temperature
- Use of a single gas source (nitrogen)
- *Option: up to 40 other VOC compounds*

> **TÜV certified according EN 14662-3**

MAIN APPLICATIONS:

• Continuous indoor and outdoor air quality monitoring • Stationary and mobile AQMS laboratories • Industrial fence-line monitoring • Measurement of impurities in industrial gases • Continuous emissions monitoring (CEM) by dilution • Measurement Campaigns and Monitoring Studies...

DIRECT NO_2 MEASUREMENT

AS32M

Continuous monitoring of ambient Nitrogen Dioxide

Designed to provide the most accurate value for NO_2 concentration measurements by equivalent method

- Precise, direct and continuous monitoring of ambient NO_2 (0-1 ppm)
- Very short response time: capable of detecting short events with high precision
- Direct sample measurement - no chemical conversion required, no Toxic Gas Emission
- Innovative technology plus touchscreen convenience (optionally)
- Uses patented Cavity Attenuated Phase Shift (CAPS) technology
- Insensitive to the presence of varying levels of nitric oxide, aerosols, humidity and other trace atmospheric species
- Extremely compact, easy to use with minimal maintenance (periodic change of particle filter)

> **EPA approval** as a Federal Equivalent Method is pending

MAIN APPLICATIONS:

• Roadside air pollution and street canyon effect • Tunnel Monitoring • Traffic Pollution Control • Continuous indoor and outdoor air quality monitoring • Industrial fence-line monitoring • Measurement Campaigns and Monitoring Studies...

MICRO-MONITORING STATION

MMS

Turnkey Micro Monitoring Station
ISO and EN regulations compliant

One single enclosure for on-line monitoring of up to 5 gas pollutants

- Continuous measurement of CO, CO_2, O_3, NO, NOx and NO_2 (SO_2 optionally)
- *Option:* Integrated Data Acquisition System
- USB and Ethernet TCP-IP for remote monitoring, data recovery and maintenance
- **MCERTs** certified system

Type approvals:

> EN Approved
> ISO 7996 & EN 14211:2005 (NOx)
> ISO 4224 & EN 14626:2005 (CO)
> ISO 13964 & EN 14625:2005 (O3)

Can be completed with PM162M particulate sampler, with MP101M or CPA for complementary real time particulate analysis

MAIN APPLICATIONS:

• Mobile Hotspot Monitoring • Fence Line Monitoring for Industry • Workplace Monitoring • Indoor Air Quality Monitoring • Measurement Campaigns and Monitoring Studies • Tunnel Monitoring • Traffic Pollution Control...

CALIBRATION SYSTEMS

CALIBRATION

MGC 101

Stationary multi-gas calibrator

- Manual or remote multi-point generation of gas concentrations from one to several high concentration span gas cylinders
- Dilution through mass flow controllers
- Internal ozone generator, GPT mode
- Meets all **US EPA** requirements

To be used with analyzers such as AC32M / CO12M / AF22M / HC51M

ZAG 7001

High precision zero air generator

- Optional CO & HC internal heated catalytic scrubber
- Internal compressor with pressure control

Purity :

- CO < 25 ppb
- NO_2, SO_2, O_3, H_2S < 0,5 ppb
- HC (including CH_4) < 20 ppb

Our analyzers are equipped with RS232/Ethernet / USB communication ports, LAN connection for full remote control and display functions. Also includes embedded Communication Protocol for XR® Management Software and interactive menu-driven display allowing user-friendly and intuitive interface for the operator.

	CPA	MP101M	PM162M	AC32M	O342M	CO12M	AF22M	HC51M	VOC72M	AS32M	MMS
Measured pollutant	particulates	particulates	particulates	NO/NOx-NO_2	O_3	CO / CO_2	SO_2	total HC	VOC / BTEX	NO_2	CO / CO2 / NO-NO2-NOx / O3
RANGES* (or user selectable ranges)	0.4-1; 1-2.5; 2.5-5; 5-10; 10-20; 20-40 µm	0-100/200/500/ 1000/2000/5000/ 10000 µg/m³	N/A	0-0.05/0.1/0.2/ 0.5/1/2/5/10/20 ppm(1)	0-0.1/0.2/0.5/ 1/2/5/10 ppm(2)	0-10/25/50/ 100/200 ppm(3)	0-0.1/0.2/0.5/ 1/2/5/10 ppm	0-10 / 50/100/ 500/1000 ppm	programmable max. 1000µg/m³	0-1 ppm	(3)+(1)+(2)
Lower Detectable Limit	0.4 µm	0.5µg/m³ / day	N/A	0.4 ppb (4)	0.4 ppb (5)	40 ppb (6)	0.4 ppb	50 ppb	2σ: ≤0.05µg/m³ (benzene)	2σ: 0.1 ppb	(6)+(4)+(5)
Dimensions WxDxH (mm)	483 x 613 x 176	483 x 324 x 266	430 x 256 x 225	545 x 483 x 133	545 x 483 x 133	545 x 483 x 133	545 x 483 x 133	483 x 581 x 177	483 x 601 x 133	545 x 483 x 133	600 x 600 x 200
Weight	9.7 kg (2.9 lbs)	15 kg (33.1 lbs)	16 (35.3 lbs)	13 kg (28.7 lbs)	9 kg (19.9 lbs)	8 kg (17.6 lbs)	10 kg (22 lbs)	27 kg (59.6 lbs)	12.5 kg (27.6 lbs)	12.5 kg (27.6 lbs)	29 kg (63.9 lbs)

*Lowest / Highest available ranges (others availlable upon request).

DATA MANAGEMENT SYSTEM XR®

Fully compliant with constantly changing international guidelines and standards, the XR® software Suit provides breakthrough features:

- Includes data retrieval, databases, data presentation tools, modelling, exposure estimates and assessment as well as a complete air quality management system
- Controls, configures and leads the measuring equipments (data acquisition stations, analyzers, meteorological stations...)
- Automatic comparison with mandatory Limit Values (ELVs)
- Automatically feeds with environmental data the institutional Websites of the customers
- AQMS mapping system providing tools to visualize, explore and query data, geographically
- Alarms display for raw data, averages, trends, maintenance ...
- Remote diagnosis and support, hotline and secured data hosting

XR® is a complete, powerful and smart Air Quality Monitoring solution.

Typical specifications subject to changes without prior notice.

3VAQMS_EN_PSO - InDes -10/12