PRODUCT
DATASHEET '25

ADVANCE ANALYTIK

REVOLUTIONIZING ONLINE MONITORING SOLUTIONS

GAZ - AQMS

Ambient Air Quality Monitoring System

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Gaz-AQMS

Overview

The Gaz-AQMS Ambient Air Quality Monitoring System is a standard station designed to monitor PM10, PM2.5, SO2, NO2, O3, CO, and other pollutants. It employs advanced detection technologies, such as ultraviolet photometry, chemiluminescence, and beta-ray methods, adhering to environmental standards. With a dynamic calibrator and zero air generator, it ensures accurate and reliable pollutant measurement.

Benefits:

- Real-time monitoring of air quality pollutants.
- High accuracy using advanced measurement methods.
- Compliance with regulatory standards.
- Automated and manual calibration options.
- Remote control and data access.
- Early detection and alert capabilities.
- Durable, weather-resistant design.
- User-friendly interface for easy operation.
- Comprehensive data analysis and reporting.
- Wide application range for urban and industrial needs.
- Energy-efficient and cost-effective operation.
- Customizable and scalable for specific requirements.

The Gaz AQMS automatic ambient air quality monitoring system provides real-time monitoring of air quality in a specific area, forming a comprehensive network for continuous sampling and analysis. It is primarily used by environmental protection agencies, power, petroleum, chemical, steel, metallurgical, and construction industries, as well as large airports. Additionally, it supports monitoring of air quality and meteorological parameters for traffic pollution, scientific research, and environmental quality assessments.

1. PM2.5 /PM10 particulate matter automatic monitor

The PM2.5/PM10 particulate matter monitor uses β-ray absorption to automatically measure inhalable particulate matter concentrations (PM10 and PM2.5) in the atmosphere. The instrument allows interactive parameter settings for continuous online measurement. Installed indoors, it connects to an outdoor cutting head via a sealed pipe, accurately measuring atmospheric particles with aerodynamic diameters of ⩽ 10μm (PM10) and ⩽ 2.5μm (PM2.5).

Key Features:

- Measures particulate matter (PM10 and PM2.5) concentrations
- Low detection limit of ⩽5 μg/m³
- Real-time online measurement with user-interactive settings
- Measures atmospheric particles in both PM10 and PM2.5 ranges
- Designed for continuous and automatic particulate matter analysis
- Supports multiple environmental conditions, including temperature, pressure, and voltage fluctuations
- Accurate flow control with minimal error
- Cutter performance for precise particle size measurement

TECHNICAL SPECIFICATIONS

ITEM	PM10	PM2.5
Particulate Concentration	0-1000 μg/m³ or 0-10000 μg/m³	0-1000 μg/m³ or 0-10000 μg/m³
Lowest Detection Limit	⩽5 μg/m³	⩽5 μg/m³
Minimum Display Unit	0.1 μg/m³	0.1 μg/m³
Repeatability	⩽2% (Nominal Value)	⩽2% (Nominal Value)
Average Flow Deviation	⩽3% of set value	⩽3% of set value
Flow Rate Standard Deviation	⩽2%	⩽2%
Flow Indication Error	⩽2%	⩽2%

TECHNICAL SPECIFICATIONS

ITEM	PM10	PM2.5
Temperature Range	-30 to 50°C, ±2°C	-30 to 50°C, ±2°C
Atmospheric Pressure	80 to 106 kPa, ⩽1 kPa	80 to 106 kPa, ⩽1 kPa
Clock Error	⩽20s (normal power), ⩽2min (power outage)	⩽20s (normal power), ⩽2min (power outage)
Slope (Comparative Testing)	1 ± 0.15	1 ± 0.15
Intercept (Comparative Testing)	0 ± 10 μg	0 ± 10 μg
Correlation Coefficient	⩾0.95	⩾0.93
Environmental Impact	Diaphragm measurement changes ⩽2% with power fluctuations	Diaphragm measurement changes ⩽2% with power fluctuations
Cutting Particle Size	10 ± 0.5 μm	2.5 ± 0.2 μm
Capture Efficiency Standard Deviation	1.5 ± 0.1	1.2 ± 0.1
Cutter Principle	Impact-type whirlwind	Impact-type whirlwind
Power Consumption	<600W	<600W

2. Sulfur dioxide (SO2) analyzer

The Sulfur Dioxide Analyzer is designed for both ambient air quality monitoring and continuous emission monitoring systems (CEMS). It employs the advanced ultraviolet fluorescence method, ensuring precise measurement of SO_2 concentrations at nmol/mol to μmol/mol levels. With features such as fast response time, high accuracy, and excellent reliability, it supports manual and automatic calibration, offering flexible operation. The analyzer also includes remote control functionality, allowing real-time data transmission and remote uploading, enabling timely monitoring and better management of air quality conditions.

TECHNICAL SPECIFICATIONS

PARAMETER	VALUE
Measuring Range	Min: (0100) nmol/mol (ppb) Max: (020) µmol/mol (ppm)
Unit	nmol/mol (ppb), µmol/mol (ppm), µg/m³, mg/m³ (optional)
Zero Point Noise	⩽0.2 nmol/mol (ppb) (RMS)
Range Noise	0.5% of reading above 50 nmol/mol (ppb)
Lower Detection Limit	0.4 nmol/mol (ppb)
Zero Point Drift (24h)	⩽0.5 nmol/mol (ppb) / 24 hours
Zero Point Drift (7 days)	<1 nmol/mol (ppb) / 7 days
Range Drift	<1% FS / (7 days)
Linearity	<1% FS
Repeatability	<1%
Fluctuation Error	<1%
Response Time	<120 seconds to 90%
Sample Gas Flow	(500±50) sccm
Operating Temperature	5℃ ~ 40℃
Working Humidity	(0 ~ 95)% RH
Power Supply	(200 ~ 240) V AC

3. Nitrogen Oxide (NOX) analyzer

The Nitrogen Oxide Analyzer is a gas analyzer designed for dilution method measurements in ambient air quality and continuous emission monitoring systems (CEMS). Using the chemiluminescence method combined with advanced microprocessing technology, it accurately measures NO, NO2, and NOx levels in the range of nmol/mol to μmol/mol (ppb to ppm). Featuring a built-in reformer and ozone generation module, the analyzer offers high accuracy, fast response, and reliable performance. It supports manual and automatic calibration, with customizable programs, and allows remote control, upload, and real-time data transmission for efficient air quality monitoring.

TECHNICAL SPECIFICATIONS

PARAMETER NAME	PARAMETER VALUE
Measuring Range	Min: (0100) nmol/mol (ppb) Max: (020) μmol/mol (ppm)
Concentration Unit	nmol/mol (ppb), μmol/mol (ppm), μg/m³, mg/m³ (optional)
Zero Point Noise	⩽ 0.2 nmol/mol (ppb) (RMS)
Range Noise	⩽ 0.5% above 50 nmol/mol (ppb) or 0.2 nmol/mol (ppb)
Lower Detection Limit	0.4 nmol/mol (ppb)
Zero Point Drift (24h)	⩽ 0.5 nmol/mol (ppb)
Zero Point Drift (7 days)	< 1 nmol/mol (ppb)
Range Drift (7 days)	< 1% FS
Linearity	< 1% FS
Accuracy (Repeatability)	Less than 1% of reading
Response Time	< 80 seconds to 95%
Sample Gas Flow	(400±50) sccm
Ozone Stabilization Working Time	< 30 minutes to 95%
Range of Working Temperature	(5~40) ℃
Working Humidity Range	(0~95)% RH
Powered By	(200~240) V AC

4. CO analysis

The CO analyzer utilizes dilution method measurement for ambient air quality and continuous emission monitoring systems (CEMS). Based on non-spectral infrared gas filtration principles, combined with advanced microprocessing technology, it ensures accurate and reliable CO measurement at ppm levels. With features such as high measurement accuracy, fast response time, and easy operation, this analyzer supports both manual and automatic calibration. The system allows remote control, real-time data transmission, and status updates, enabling efficient monitoring and precise judgment of air quality conditions.

TECHNICAL SPECIFICATIONS

PARAMETER NAME	PARAMETER VALUE
Measuring Range	Min: (050) µmol/mol (ppm), Max: (01000) µmol/mol (ppm)
Unit	nmol/mol (ppb), µmol/mol (ppm), µg/m³, mg/m³ (optional)
Zero Point Noise	0.02 µmol/mol (ppm)
Range Noise	0.04 µmol/mol (ppm)
Lower Detection Limit	0.4 nmol/mol (ppb)
Zero Point Drift (24h)	<0.1 µmol/mol (ppm)
Zero Point Drift (7 Days)	<0.5 µmol/mol (ppm)
Range Drift	<0.5 µmol/mol (ppm)
Linearity	<1% FS
Repeatability	<1%
Fluctuation Error	<1%
Response Time (T90)	<60 seconds
Sample Gas Flow	(800 ± 80) cc/min
Operating Temperature	5℃ ~ 40℃
Working Humidity	(0~95)% RH
Power Supply	(200240) V AC / (4555) Hz

5. O3 analyzer

The ozone analyzer is a gas analyzer designed for dilution method measurement in ambient air quality monitoring and continuous emission monitoring systems (CEMS). It operates based on the ultraviolet absorption method and utilizes advanced microprocessing technology to provide accurate and reliable measurement and analysis of ozone (O_3) concentrations at the nmol/mol to μmol/mol (ppb to ppm) level.

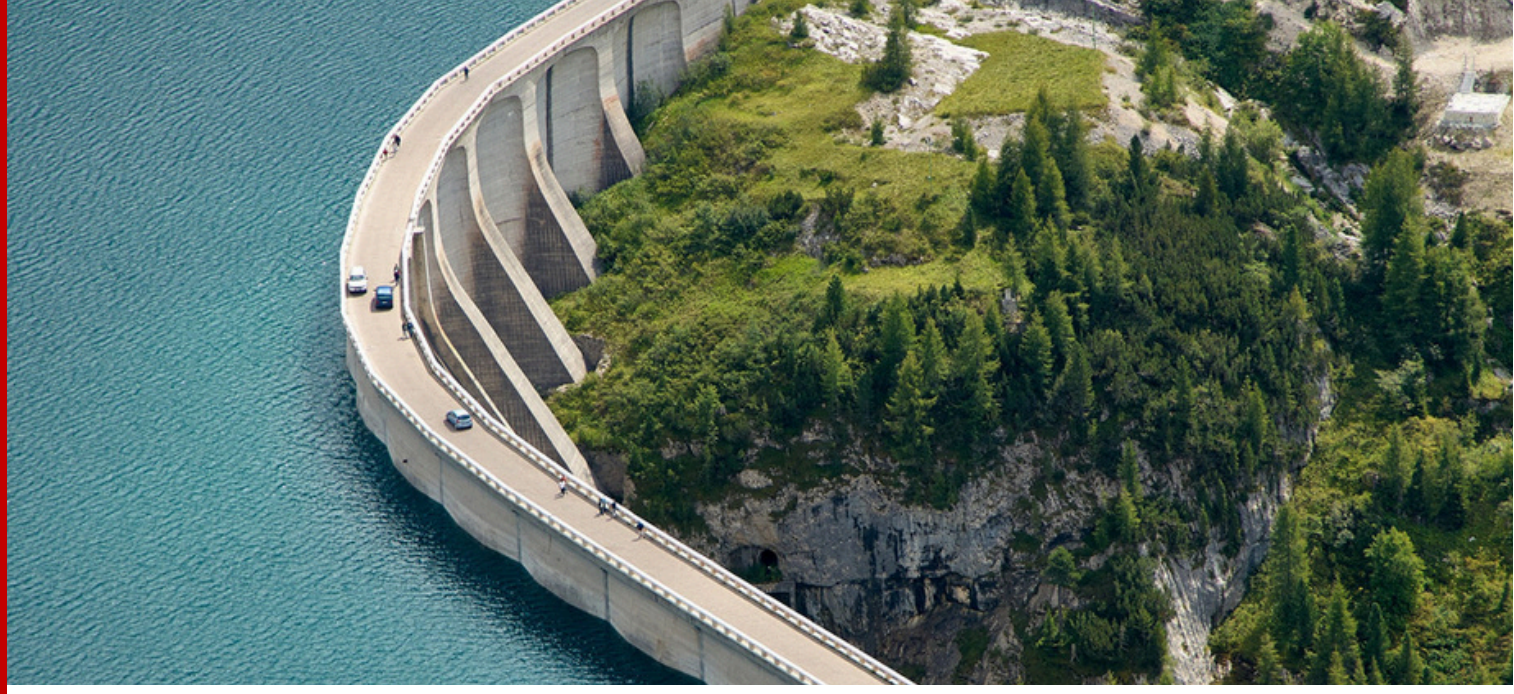
TECHNICAL SPECIFICATIONS

PARAMETER NAME	PARAMETER VALUE
MEASURING RANGE	MIN: (0100) NMOL/MOL (PPB), MAX: (020) MMOL/MOL (PPM)
UNIT	NMOL/MOL (PPB), MMOL/MOL (PPM), MG/M³, MG/M³ (OPTIONAL)
ZERO POINT NOISE	⩽ 0.2 NMOL/MOL (PPB) (RMS)
RANGE NOISE	0.5% OF READING ABOVE 50 NMOL/MOL (PPB)
LOWER DETECTION LIMIT	0.4 NMOL/MOL (PPB)
ZERO POINT DRIFT (24H)	⩽ 0.5 NMOL/MOL (PPB) / 24 HOURS
ZERO POINT DRIFT (7 DAYS)	< 1 NMOL/MOL (PPB) / 7 DAYS
RANGE DRIFT	< 1% FS / 7 DAYS
LINEARITY	< 1% FS
REPEATABILITY	< 1%
FLUCTUATION ERROR	< 1%
RESPONSE TIME	< 120 SECONDS TO 90%
SAMPLE GAS FLOW	(500 ± 50) SCCM
OPERATING TEMPERATURE	5℃ ~ 40℃
WORKING HUMIDITY	(0 ~ 95)% RH
POWERED BY	(200 ~ 240) V AC

6. Sampling System

The sampling system is designed to provide precise and reliable air quality monitoring by preventing contamination from rain, coarse particles, and insects. It uses chemically stable, waterproof, and insulated materials that do not react with pollutants or release interfering substances. The system ensures laminar flow in the main pipe, with a gas residence time of less than 20 seconds. It includes multiple branches to accommodate all gas projects and maintains a height of 1.2 meters above the station roof to avoid external interference. The system is sealed with corrosion-resistant stainless steel flanges and is detachable for easy cleaning, maintenance, and repairs.

7. Installation example



Note –

This data sheet serves as general information about the Gaz-AQMS. For specific technical details, installation guidelines, and troubleshooting assistance, please refer to the official user manual provided with the product.

For inquiries and detailed technical information, please contact sales@advanceanalytik.com.

LET'S CONNECT !

Let's work together to find a solution that works for you

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