



Air Quality Monitoring System

AQMS-1000

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AQMS-100 Zero Air Generator

FPI AQMS-100 provides ultra pure pollutant-free zero air for calibrating zero point of ambient air quality monitor. It consists of air compressing and cooling system, water removal system, gaseous pollutant scrubber system, particle removal and zero gas output system.

Principle

The AQMS-100 generates clean and dry zero air by removing components which will cause interference on zero point calibration.



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Water Removal System

The primary draining system apply condenser to remove the saturated liquid water in ambient air. The secondary draining systems are used to remove gaseous water in the ambient air by utilizing the regeneration scrubber. It is filled with two molecular sieves which have multiple holes and filters. One molecular sieve will work to remove the water in raw air while another is under regeneration by injecting compressed air to remove moisture.

HC/CO/NO Scrubber

To remove hydrocarbon, CO and NO, three scrubbers applying catalytic reaction are used, where HC and CO will be converted into CO₂ which does not interfere analyses and NO will be converted into NO₂. Then activated carbon applied to remove CO₂, NO₂, O₃, SO₂, H₂S and NH₃.

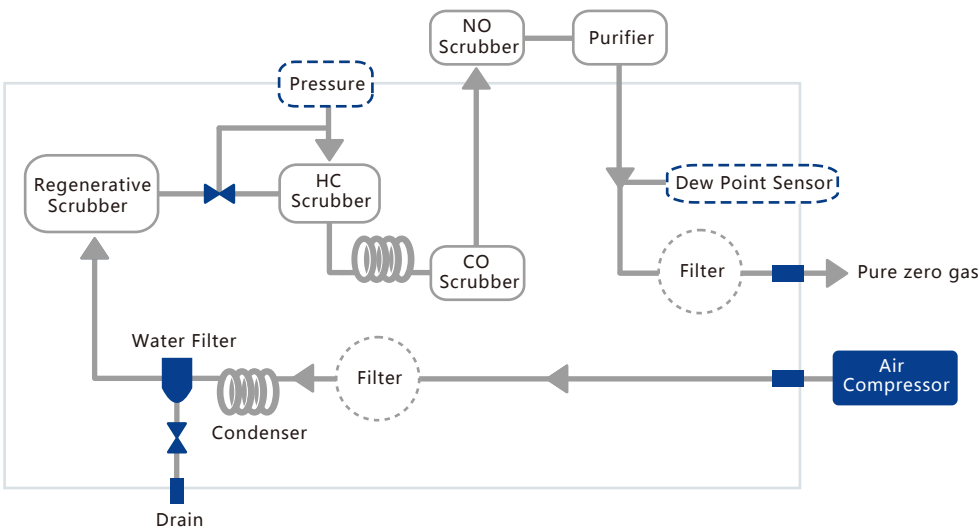
Features

- Ultra high purity zero air output;
- Regenerative dryer utilizing molecular sieve to perform maintenance free advantage;
- Remote display and configuration on key functions;
- Integrated dew point sensor;
- High performance scrubbers to remove hydrocarbon, CO, SO₂, NH₃, NO, NO₂, ozone and BTX;

Technical Data

Output	20 SLPM at 30 psig
Dew Point	<-30°C(<15L); <-20°C(>15L)
Output Concentration	SO ₂ : < 0.1ppb; NO: <0.1ppb; H ₂ S: < 0.1ppb; NH ₃ : < 0.1ppb; NO ₂ : < 0.1ppb; O ₃ : < 0.4ppb; CO: < 0.02ppm; BTEX: < 0.1ppb; Other HC: < 0.25ppb; CH ₄ <5ppb
Power Requirement	100~240VAC; 220V AV±10% 50Hz
Operating Temperature	-5~55°C
Dimension	221(H) x 482(W) x 554(D)mm

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*Molecular sieve are utilized in regenerative scrubber
*Activated carbon are utilized in purifier

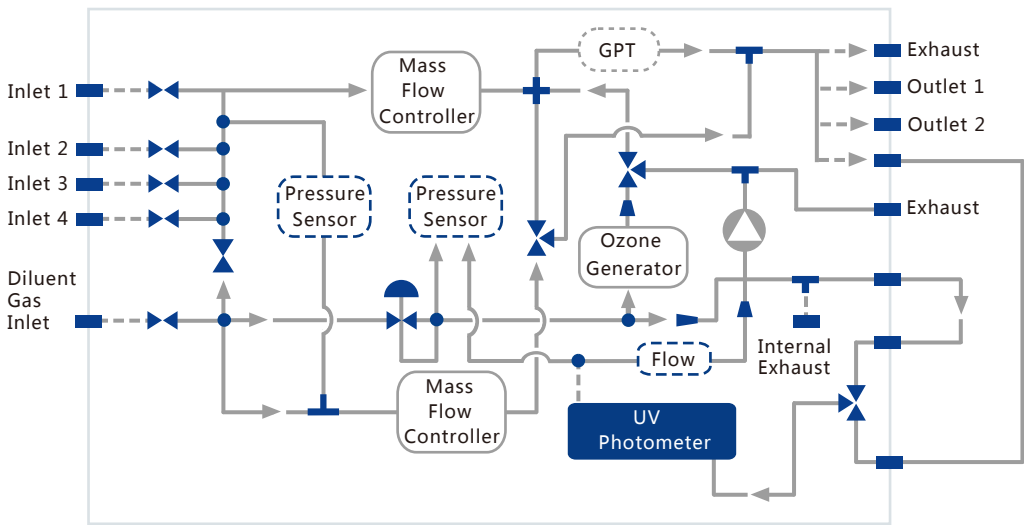
AQMS-200 Dynamic Calibrator

FPI AQMS-200 dynamic dilution calibrator utilizes two mass flow controllers to perform standard zero and span calibration with up to 4 gas sources.



Features

- Stable trace level ozone output down to 0.1ppm;
- Optional ozone generator, gas phase titration and photometer for independent ozone calibration;
- User selectable output include RS232 and ethernet;
- High performance mass flow controller provides stable and linearized output;



Technical Data

Dilution System	
Dilution Gas Flow Range	0~10SLM, available 0~50sccm, 0~200sccm;
Standard Gas Flow Range	0~100sccm; available 0~50sccm, 0~200sccm;
Flow Accuracy	±1% F.S.
Linearity	± (0.5~1)% F.S.
Repeatability	± 0.2% F.S.
Calibration Gas Input	6
Diluent Gas Input Ports	1
Ozone Generator (Optional)	
Output	0.1~6pm (1SLM)
Stability	<1% / 24h
Linearity	<1% F.S.
UV Photometer (Optional)	
Range	(0~0.5)ppm, (0~10)ppm
Precision	1.0 ppb
Linearity	±0.5% F.S.
Rise / Fall Time	<30s
Response Time	<60s
Zero Drift	<1.0 ppb / 24h
Range Drift	< 1% F.S./ 24h
Physical and Communication	
Power Requirement	(220±22)VAC, (50±1)Hz
Operating Temperature	-5~55°C
Operating Humidity	0~95%RH (No condensation)
Communication	RS232/RS485/Ethernet
Dimensions And Weight	178(H) x 432(W) x 609(D)mm; <15kg; <20kg (Including ozonegenerator and ozone photometer)

01/ AQMS-300 Ozone Analyzer

US EPA Designation No. : EQOA-0719-253



FPI AQMS-300 Ozone analyzer measures ambient O₃ concentration in ppb level by utilizing UV photometric absorption technology.

Principle

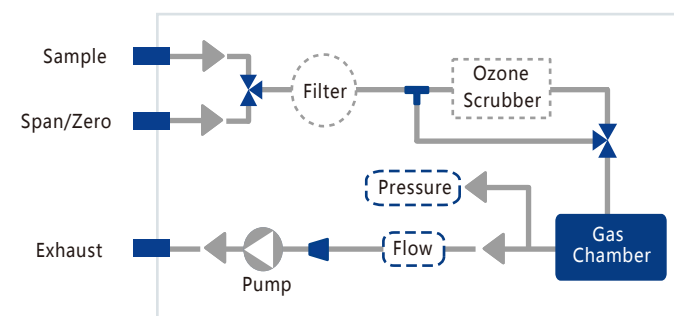
The instrument measures the concentration of ambient ozone on the basic principle of ozone adsorbing UV light in chamber with 42cm optical length for light adsorption since there is a significant characteristic absorption for ozone on wavelength of 254nm. Periodical diversion on sample flow passing through the ozone scrubber will generate reference measurement, which is compared with sample measurement to provide stable and representative result.

Features

- Accurate direct UV absorption with reference comparison;
- Various outputs include ethernet and RS232;
- Multi-tasking software allows viewing test variables while operating;
- Internal data logging with 1min to 365 day multiple averages;
- Compliance with US EPA equivalent method;
- User friendly interface with large screen;
- Continuous system diagnosis with alarm;
- Temperature and pressure compensation;

Ozone Scrubber

The ozone scrubber is filled with MnO₂ as catalyst, which will convert O₃ to O₂ to perform preference measurement. Meanwhile, the presence of other components remains the same.



Ozone Photometer

In ozone photometer, a mercury lamp is used as light source, from which light beam travels through two window glasses and, a gas chamber, to reach a sensor to convert the light into electric signal. Temperature control circuit, heating device and thermistor are used to control the temperature of lamp holder and ensure stability of temperature.

Data Storage and Analysis

Stored data are easily retrievable through the serial or Ethernet port via PC client software, allowing operators to perform predictive diagnostics and enhanced data analysis by tracking parameter trends.

Technical Data

US EPA Designation No.	EQOA-0719-253
Principle	UV Photometric
Standard Range	US EPA Specification 0-500 ppb
Noise Level:	0.6ppb RMS(300 second averaging time)
Display	Digital
Lower Detectable Limit	<0.6ppb
Zero Drift	<1ppb
Span Drift	<1%F.S./ Week
Linearity	<1%F.S.
Precision	<1%
Response Time	<20s(T90)
Sample Flow Rate	(800±80)sccm
Calibration	Multi-point Calibrator
I/O	2 channel analog (4~20) mA; 2 analog (0~5) V; 1x Ethernet; 1x RS232; 1x RS485; 1x USB device ports; 6x Relay Output; 8x Status output port; 8x Control input port
Operating Temperature	US EPA Specification 20-30 °C; Actual applicable: -5-55°C
Operating Humidity	0~95%RH (No condensation)
Power Requirement	100~240 VAC, Converter applicable
Dimensions and Weight	178(H) x 432(W) x 604(D)mm, 15kg

AQMS-400 Carbon Monoxide Analyzer

US EPA Designation No.RFCA- 0419- 252

FPI AQMS-400 carbon monoxide (CO) analyzer measures ambient CO concentration by employing nondispersive infrared with gas filter correlation method technology.

Principle

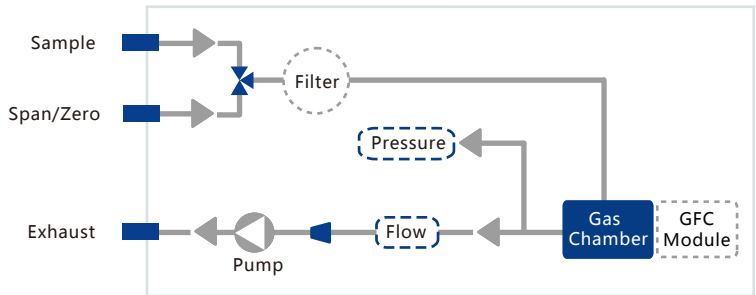
Infrared energy emitted by light source is passed through gas chamber containing the air sample, and the quantitative absorption of energy by CO in the sample cell is measured by corresponding detector.



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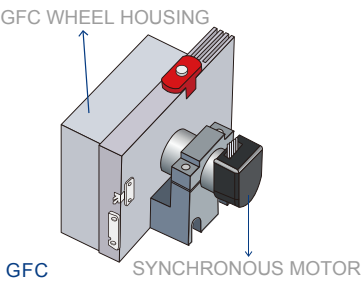
Features

- 14 meters optical path to perform high reliability;
- Multi-tasking software allows viewing test variables while operating;
- Compliance with US EPA reference method;
- Various outputs include ethernet and RS232;
- User friendly interface with large screen;
- Cotinuous system diagnosis with alarm;
- Five years guarantee on GFC wheel;
- Temperature and pressure compensation;
- Internal data logging with 1 min to 365 day multiple averages;



Data Storage and Analysis

Stored data are easily retrievable through the serial or ethernet port via PC client software, allowing operators to perform predictive diagnostics and enhanced data analysis by tracking parameter trends.



GFC

The Gas Filter Correlation (GFC) adopts Non-dispersive infrared technology and includes two units, one for reference and the other for measurement.

03/

Technical Data

US EPA Designation No.	RFCA-0419-252
Standard Range	0~1ppm to 1000ppm Selectable
Principle	NDIR
Zero Noise	≤0.1ppm (RMS)
Span Noise	0.5% F.S
Lower Detectable Limit	<0.05ppm
Display	Digital
Zero Drift	<0.1ppm/24h
Span Drift	<1%F.S./24h
Linearity	<1%F.S.
Precision	<1%
Response Time	T90<60s
Sample Flow Rate	(800±80)sccm
I/O	2 channel analog (4~20) mA; 2 analog (0~5) V; 1x Ethernet; 1x RS232; 1x RS485; 1x USB device ports; 6x Relay Output; 8x Status output port; 8x Control input port
Operating Temperature	US EPA Specification 20-30°C; Actual applicable: -5-55°C
Operating Humidity	0~95%RH(No condensation)
Calibration	Multi-point calibrator
Power Requirement	(220±22)VAC, (50±1)Hz
Dimensions and Weight	178(H) x 432(W) x 604(D)mm, 28kg

AQMS-500 Sulfur Dioxide Analyzer

US EPA Designation No.RFSA– 1219– 255

FPI AQMS-500 sulfur dioxide (SO₂) analyzer applies UV fluorescence technology with photomultiplier tube (PMT) to measure SO₂.



Principle

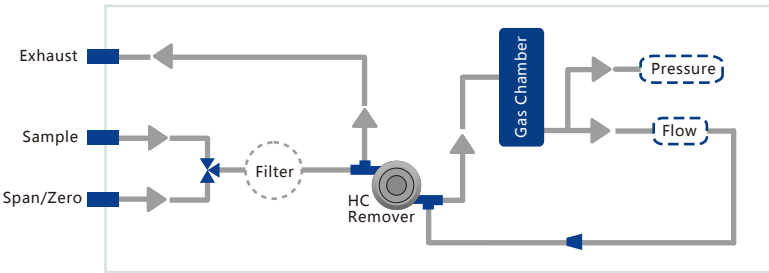
AQMS-500 measures the intensity of the characteristic fluorescence released by SO₂ in an ambient air sample contained in the gas chamber when the air sample is irradiated by ultraviolet light passed through the chamber.

Features

- Compliance with US EPA reference method;
- Various outputs include ethernet and RS232;
- User friendly interface with large screen;
- Multi-tasking software allows viewing test variables while operating;
- Continuous system diagnosis with alarm;
- Temperature and pressure compensation;
- Internal data logging with 1 min to 365 day multiple averages;
- Critical orifices provide flow stability;

UV Source

The pulsing of the UV source lamp serves to increase the optical intensity whereby a greater UV energy throughput and lower detectable concentration are realized.



Data Storage and Analysis

Stored data are easily retrievable through the serial or ethernet port via PC client software, allowing operators to perform predictive diagnostics and enhanced data analysis by tracking parameter trends.

Removal of Interferences

The permeation scrubber acting as hydrocarbon kicker removes aromatic hydrocarbon such as xylene and naphthalene which causes interference. Optical filtering are employed to improve the rejection of interference from high nitrogen oxides.

PMT System

The characteristic fluorescence of SO₂ is received by the photomultiplier tube and converted into an electrical signal. The number of electrons is increased by the photomultiplier system and the current or voltage is collected by the anode.

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Technical Data

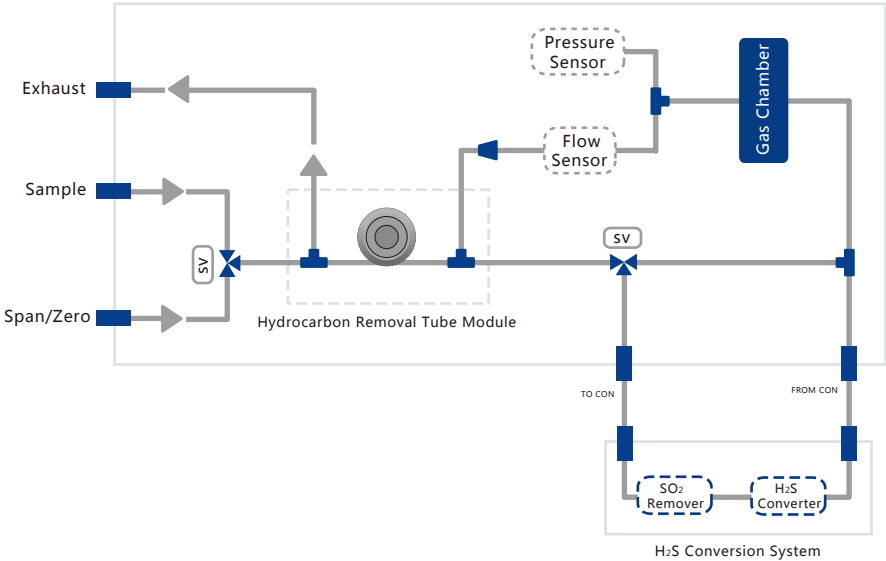
US EPA Designation No.	RFSA–1219–255
Principle	UV Fluorescence
Standard Range	0-1000ppb Selectable; 0-2000µg/m³(0-200,0-500, 0-1000, 0-2000µg/m³)
Noise Level	0.5ppb RMS (300 second averaging time)
Display	Digital
Lower Detectable Limit	0.5ppb
Zero Drift	<1ppb/24h
Span Drift	<1%
Linearity	<1%F.S.
Precision	<1%
Response Time	<60s(T90)
Sample Flow Rate	(650±65)sccm
I/O	2 channel analog (4~20) mA; 2 analog (0~5) V; 1x Ethernet; 1x RS232; 1x RS485; 1x USB device ports; 6x Relay Output; 8x Status output port; 8x Control input port
Calibration	Multi-point calibrator
Operating Temperature	US EPA Specification 20-30°C; Actual applicable: -5-55°C
Operating Humidity	0~95%RH(No: condensation)
Power Requirement	(220±22)VAC, (50±1)Hz
Dimensions and Weight	178(H) x 432(W) x 604(D)mm, 22kg

AQMS-550 H₂S Analyzer

AQMS-550 H₂S analyzer adopts UV fluorescence principle with an internal thermal catalytic converter to measure H₂S in ambient air at levels commonly required.

Principle

AQMS-550 is equipped with an internally mounted catalytic converter set at 315°C to convert H₂S to SO₂. By passing the sample through a SO₂ scrubber which removes any SO₂, the H₂S is converted to SO₂ using this internal H₂S converter and measured using the pulsed fluorescence technique.



Technical Data

Principle	UV Fluorescence
Measured Gas	H ₂ S in ambient
Range	0-10000ppb
Measurement Units	ppb, ppm, µg/m ³ , mg/m ³ (selectable)
Lower Detectable Limit	<0.4ppb or 0.5 % of reading
Zero Noise	<0.2ppb
Span Noise	<0.5%F.S.
Zero Drift	<1ppb/24 hours; <5ppb/7days;
Span Drift	<1%F.S.
H ₂ S Converter	315°C
Sample Flow Rate	(650±65)sccm
Linearity	<1%F.S.
Response Time	<150 second
Rise/Fall Time	<30 second
Data Transmission	2 channel analog (4~20) mA; 2 analog (0~5) V; 12 digital input/output; 4-way relay output;
Digital Output	2 x RS232; RS485/Ethernet;
Operating Temperature	-5-55°C
Power Requirement	(230±10)VAC, (50±10%)Hz
Dimension	178(H) x 432(W) x 604(D)mm
Weight	18-19kg

Features

- Independent ranges and auto ranging;
- Vivid color graphics display with touch screen interface;
- Various outputs include RS232, RS485 and USB comports;
- Continuous system diagnosis with alarm;
- Temperature & pressure compensation;
- Less spare costs, accessories and maintenance requirement;
- Large data storage capacity;
- Low power demand of lasted model cause less power consumption;

AQMS-600 Nitrogen Oxides Analyzer

US EPA Designation No.RFNA–0819–254



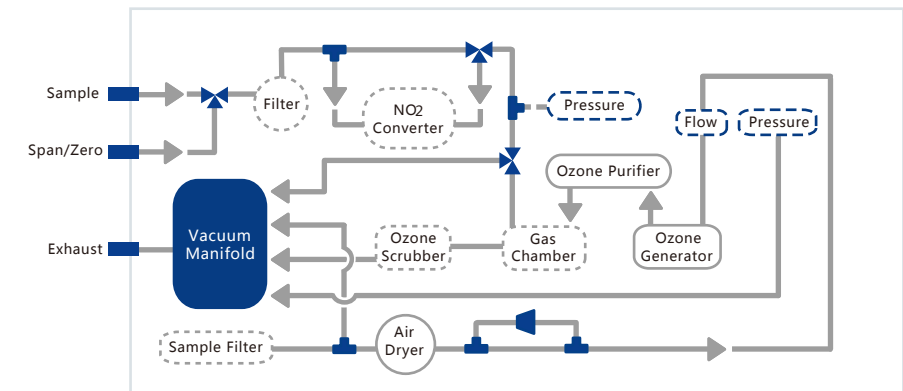
FPI AQMS-600 nitrogen oxides (NO-NO₂-NO_x) analyzer utilizes chemiluminescence technology indicated by US EPA as federal reference method for monitoring on multiple forms of nitrogen oxides.

Principle

Nitrogen oxides in ambient are measured indirectly by photometrically measures the light intensity, resulting from the chemiluminescent reaction of nitric oxide (NO) with ozone (O₃). NO₂ is first quantitatively reduced to NO by means of a converter. NO, which commonly exists in ambient air together with NO₂, passes through the converter unchanged causing a resultant total NO_x concentration equal to NO+NO₂.

Features

- Permeation dryer on Ozone generator;
- Catalytic Ozone scrubber;
- Independent ranges for NO, NO₂ and NO_x;
- Compliance with US EPA reference method;
- Various outputs include ethernet and RS232;
- User friendly interface with large screen;
- Continuous system diagnosis with alarm;
- Multi-tasking software allows viewing test variables while operating;
- Temperature and pressure compensation;
- Internal data logging with 1 min to 365 day multiple averages;



PMT System

The characteristic fluorescence of unstable excited-state NO₂ is received by the photomultiplier tube and converted into an electrical signal. The number of electrons is increased by the photomultiplier system and the current or voltage is collected by the anode.

Ozone Generation

Permeation dryer are introduced in ozone generation to provide long system durability without any replacement. A catalytic ozone scrubber is installed for maximize pump life and exhaustion safety purpose.

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Technical Data

US EPA Designation No.	RFNA–0819–254
Principle	Chemiluminescence
Standard Range	0-1000ppb Selectable
Zero Noise	≤0.4ppb (RMS)
Span Noise	<0.5% (≥50ppb)
Display	Digital
Lower Detectable Limit	0.4ppb
Zero Drift	<1ppb in 24 hours
Span Drift	<1%F.S. in 7 days
Linearity	<1%F.S.
Precision	<1%
Response Time	<100s(T90)
Sample Flow Rate	(500±50)sccm
I/O	2 channel analog (4~20) mA; 2 analog (0~5) V; 1x Ethernet; 1x RS232; 1x RS485; 1x USB device ports; 6x Relay Output; 8x Status output port; 8x Control input port
Calibration	Multi-point calibrator
Operating Temperature	US EPA Specification 20-30 °C; Actual applicable: -5-55°C
Operating Humidity	0~95%RH(No condensation)
Power Requirement	(220±22)VAC, (50±1)Hz
Dimensions and Weight	178(H) x 432(W) x 604(D)mm, 22kg

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AQMS-650 NH3 Analyzer

FPI AQMS-650 also comes with its own developed Software. The Remote PC Software allows for a remote connection with virtual interface and data downloading capability to analyzers operating Software.

Principle

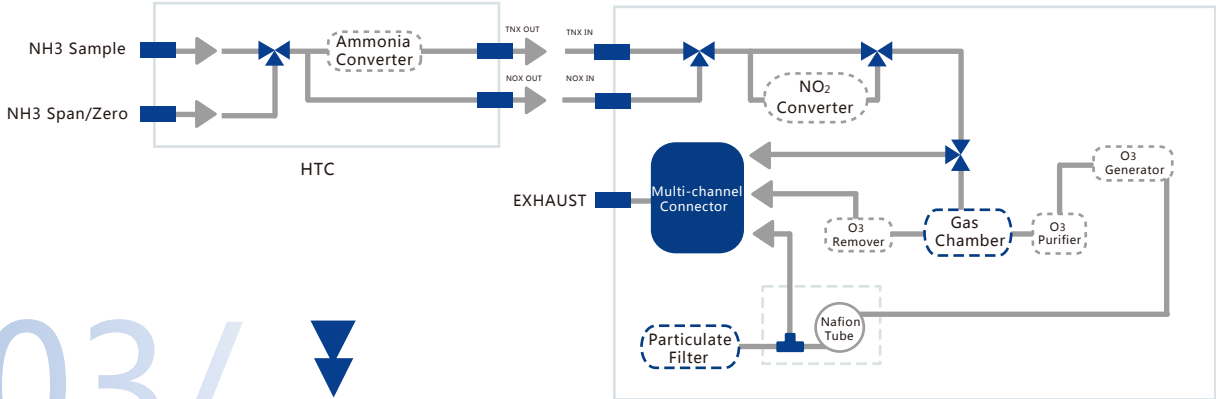
FPI AQMS-650 measures NH3 in the ambient air, which delivers a stable and precise value. It adopts chemiluminescence technology with an external converter which can combine its use with AQMS-600 measuring NOx as well; during the measurement, NH3 will be converted into NO by oxidation.



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Features

- Independent measurement of NOx and NH3;
- High efficiency external converter;
- Various outputs include ethernet and RS232;
- Continuous system diagnosis with alarm;
- User friendly interface with large screen;
- Less spare costs,accessories and maintenance requirement;
- Large data storage capacity;
- Low power demand of lasted model cause less power consumption;



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Technical Data

Principle	Chemiluminescence
Measured Gas	NH3 in ambient
Measurement Units	ppb, ppm, µg/m³ , mg/m³
Range	0-1000ppb
Lower Detectable Limit	<0.4ppb or 0.5 % of reading
Zero Noise	<0.2ppb
Span Noise	<0.2%F.S.
Zero Drift	<1ppb/24hours; <5ppb/7days
Span Drift	<1%F.S.
NH3/NO Converter	Quartz at 10000 C
Sample Flow Rate	1000cm³/min ±10%
Linearity	<1%F.S.
Response Time	<300 second
Rise/Fall Time	<30 second
Analog Output	2 channel analog (4~20) mA; 2 analog (0~5) V; 12 digital output; 4-way relay output
Digital Output	2 x RS232; RS485/Ethernet
Operating Temperature	-5-55°C
Power Requirement	(230±10)VAC, (50±10%)Hz
Dimension	178(H) x 432(W) x 604(D)mm
Weight	Analyzer: 20kg Converter: 10-12Kg

BPM-200 Continuous Particulate Monitor

US EPA Designation No.EQPM-0121-258

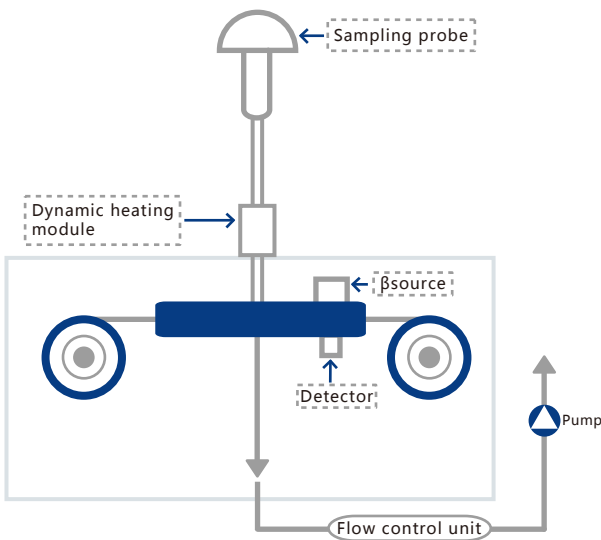
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The BPM-200 measures ambient particulate by using well applied beta ray attenuation technology. PM2.5 measurement can also be achieved by introducing corresponding cyclone.

Principle

Particulate matter sample is pulled by a vacuum pump and concentrated on filter tape spot, the concentrated sample is advanced to measuring position where between beta ray source and detector. An attenuation signal of beta ray is detected which represents the mass of sample particulate. Particulate concentration can be determined by dividing mass to volume which has been strictly controlled during sampling with fixed flow rate.



Features

- Compliance with US EPA equivalent method;
- Automatic continuous operation up to 60 days;
- Reference film calibration;
- Low maintenance and operation requirement;
- User selectable measurement cycle;
- Various output with serial printer and GPRS as optional;
- Stable and long life time radiation source;

02/

Technical Data

US EPA Designation No.	EQPM-0121-258
Principle	Beta ray attenuation
Resolution	0.1µg/m³
Lower Detectable Limit	0.004mg/m³(PM10) 0.002 mg/m³(PM2.5)
Accuracy	≤2%
Range	(0~1)mg/m³, (0~2)mg/m³, (0~5)mg/m³, (0~10)mg/m³(Selectable)
Sample Flow Rate	16.7L/min
Display	LCD
Flow Accuracy	±1%F.S
Flow Stability	≤±2%/24h (Operation)
Calibration Film Reproducibility	≤±2%
Sample Cycle	60min (Optional)
Source	C14 source, active10µCi, exemption source
Filter Paper Tape	Glass fiber
Roll Length	>20 meters
Detector	PMT
Communication	RS232/RS485/Ethernet;
Data Transmission	2 analog (0~5) V;
	2 channel analog (4~20) mA;
	12 digital input/output; 4-way relay output;
Power Supply	(220±22)VAC, (50±1)Hz
Operating Temperature	(-5~55)°C
Ambient Humidity	0~95%RH(No condensation)
Ambient Pressure	86~116kPa
Dimensions	310(H)x430(W)x400(D)mm
Weight	Round 25kg, without accessories

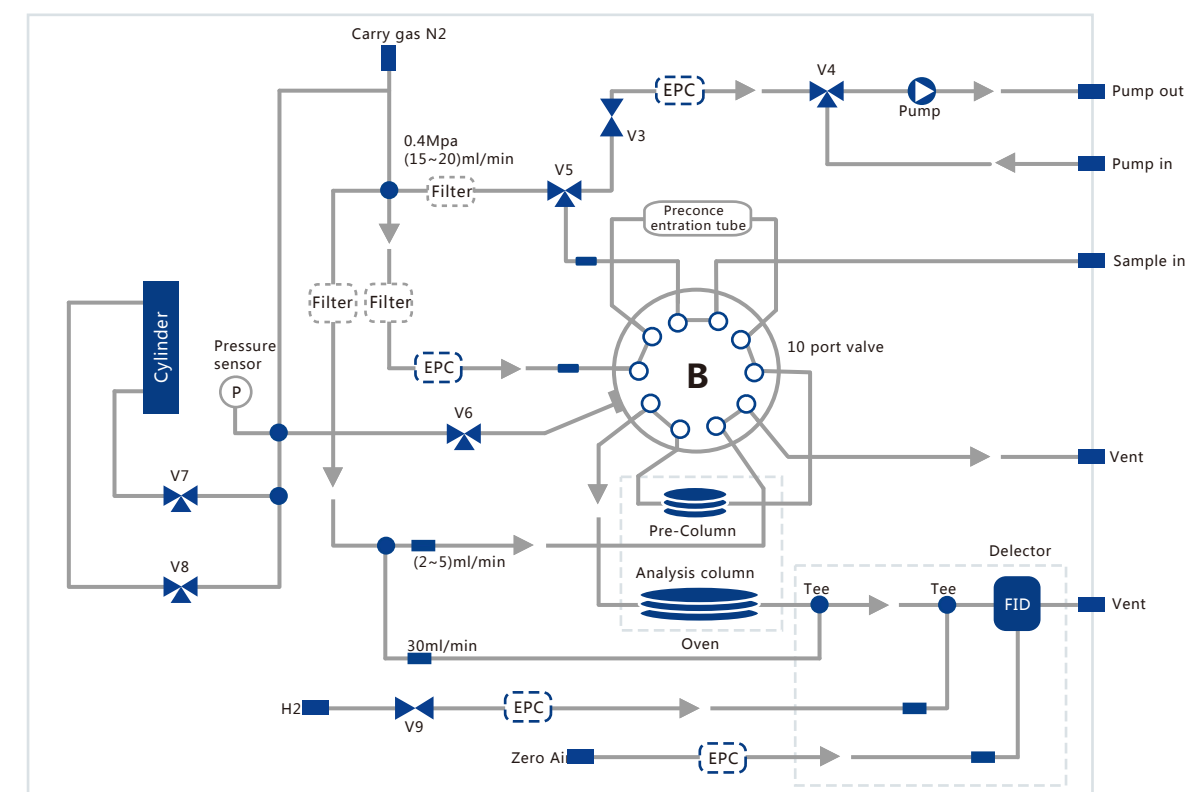
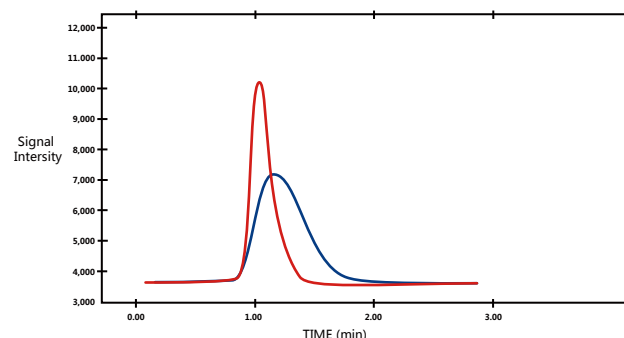
01/ EXPEC-2000 BTEX Analyzer



The EXPEC-2000 series VOC analyzer adopts three-valve four-column FID technology, which can measure methane, non-methane and BTEX simultaneously. This VOC instrument can be applied both in industrial emission and ambient air network round urban area.

Principle

Sample gas will be stored in the loop first, then release them into PQ columns by switching the ten-way valve to the A state. Different components can be separated in the PQ columns and transported to FID detector to measure respectly.



Full Heated Design

The whole process heat tracing FID detection avoids high-boiling VOC attached, promoting the accuracy. No steam condensation, avoiding corrosion of components.

High Integration

The FID flame will light automatically after warm-up time. It is continuous online analysis, automatic cycle operation at startup.

Automatic Operation

Analysis cycle less than 10 minutes Operation continuously with free maintenance.

Measurement Range

Hundreds of VOCs including total hydrocarbon, non-methane hydrocarbon, BTEX and ordour.

Specification

Measurement Components	Methane	NMHC	THC
Principles	Flame Ionization Detector(FID)		
Range	Methane: 0.1~1000ppm; NMHC: 0.05~100(or 1~10000ppm)		
Detection Limit	0.05ppm		
Repeatability	RSD≤2%		
Response Time	≤60s		
Gas Source Requirement	Carrier gas: high purity nitrogen or zero-level air; Gas: high purity hydrogen; Combustion-supporting gas: zero-level air;		
Digital Communication	4~20mA, RS485, RS232, modbus		
Power Supply	<800 VA, 220V AC/50Hz		
Condition Temperature	(5~35)°C		



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
CENTER FOR ENVIRONMENTAL MEASUREMENTS & MODELING
AIR METHODS & CHARACTERIZATION DIVISION (MD-D205-03)
Research Triangle Park, NC 27711

Office of
Research and Development

LIST OF DESIGNATED REFERENCE AND EQUIVALENT METHODS

Issue Date: June 15, 2021

(www.epa.gov/ttn/amtic/criteria.html)

These methods for measuring ambient concentrations of specified air pollutants have been designated as "reference methods" or "equivalent methods" in accordance with Title 40, Part 53 of the Code of Federal Regulations (40 CFR Part 53). Subject to any limitations (e.g., operating range or temperature range) specified in the applicable designation, each method is acceptable for use in state or local air quality surveillance systems under 40 CFR Part 58 unless the applicable designation is subsequently canceled. Automated methods for pollutants other than PM₁₀ are acceptable for use only at shelter temperatures between 20°C and 30°C and line voltages between 105 and 125 volts unless wider limits are specified in the method description.

Prospective users of the methods listed should note (1) that each method must be used in strict accordance with its associated operation or instruction manual and with applicable quality assurance procedures, and (2) that modification of a method by its vendor or user may cause the pertinent designation to be inapplicable to the method as modified. (See Section 2.8 of Appendix C, 40 CFR Part 58 for approval of modifications to any of these methods by users.)

Further information concerning particular designations may be found in the *Federal Register* notice cited for each method or by writing to the Center for Environmental Measurements and Modeling, Air Methods and Characterization Division (MD-D205-03), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. Technical information concerning the methods should be obtained by contacting the source listed for each method. Source addresses are listed at the end of the listing of methods, except for the addresses for lead method sources, which are given with the method. New analyzers or PM₁₀ samplers sold as reference or equivalent methods must carry a label or sticker identifying them as designated methods. For analyzers or PM₁₀ samplers sold prior to the designation of a method with the same or similar model number, the model number does not necessarily identify an analyzer or sampler as a designated method. Consult the manufacturer or seller to determine if a previously sold analyzer or sampler can be considered a designated method or if it can be upgraded to designation status. Analyzer users who experience operational or other difficulties with a designated analyzer or sampler and are unable to resolve the problem directly with the instrument manufacturer may contact EPA (preferably in writing) at the above address for assistance.

This list will be revised as necessary to reflect any new designations, modifications of existing designations, or any cancellation of a designation currently in effect. The most current revision of the list will be available for inspection at EPA's Regional Offices, and copies may be obtained at the Internet site identified above or by writing to the Center for Environmental Measurements and Modeling at the address specified above.

Most Recent Designations

Designation Number	Applicant	Instrument Series	Summary of Designation	Effective Date
RFSA-1120-257	Kentek Inc.	Mezus 110 UV fluorescence FRM SO ₂ Analyzer	New designation of SO ₂ Analyzer	March, 2021
EQPM-0121-258	Focused Photonics Inc	BPM-200 β -ray PM ₁₀ FEM monitor	New designation of PM ₁₀ Analyzer	March, 2021

Most Recent Modifications of Existing Designations

Designation Number	Applicant	Instrument Series	Summary of Modification	Effective Date
EQSA-0495-100	Teledyne API	N100 Series SO ₂ FEM Analyzer	Addition of model N100	May, 2021

Particulate Matter – PM₁₀***Andersen Model RAAS10-100 PM₁₀ Single Channel PM₁₀ Sampler*****Manual Reference Method: RFPS-0699-130**

“Andersen Instruments, Incorporated Model RAAS10-100 Single Channel Reference Method PM₁₀ Sampler,” with RAAS-10 PM₁₀ inlet or the louvered inlet specified in 40 CFR 50 Appendix L, Figs. L-2 thru L-19, configured as a PM₁₀ reference method, and operated for a continuous 24-hour sample period at a flow rate of 16.67 Lpm, and in accordance with the Model RAAS105-100 Operator’s Manual and with the requirements and sample collection filters specified in 40 CFR Part 50, Appendix J.

Federal Register: Vol. 64, page 33481, 06/23/1999

Andersen Model RAAS10-200 PM₁₀ Single Channel PM₁₀ Audit Sampler**Manual Reference Method: RFPS-0699-131**

“Andersen Instruments, Incorporated Model RAAS10-200 Single Channel Reference Method PM₁₀ Audit Sampler,” with RAAS-10 PM₁₀ inlet or the louvered inlet specified in 40 CFR 50 Appendix L, Figs. L-2 thru L-19, configured as a PM₁₀ reference method, and operated for a continuous 24-hour sample period at a flow rate of 16.67 Lpm, and in accordance with the Model RAAS105-200 Operator’s Manual and with the requirements and sample collection filters specified in 40 CFR Part 50, Appendix J.

Federal Register: Vol. 64, page 33481, 06/23/1999

Andersen Model RAAS10-300 PM₁₀ Multi Channel PM₁₀ Sampler**Manual Reference Method: RFPS-0699-132**

“Andersen Instruments, Incorporated Model RAAS10-300 Multi Channel Sequential Reference Method PM₁₀ Sampler,” with RAAS-10 PM₁₀ inlet or the louvered inlet specified in 40 CFR 50 Appendix L, Figs. L-2 thru L-19, configured as a PM₁₀ reference method, and operated for a continuous 24-hour sample period at a flow rate of 16.67 Lpm, and in accordance with the Model RAAS105-300 Operator’s Manual and with the requirements and sample collection filters specified in 40 CFR Part 50, Appendix J.

Federal Register: Vol. 64, page 33481, 06/23/1999

BGI Incorporated Model PQ100 Air Sampler**Manual Reference Method: RFPS-1298-124**

“BGI Incorporated or Mesa Laboratories Incorporated Model PQ100 Air Sampler,” with BGI 16.7 Inlet Kit or the louvered inlet specified in 40 CFR 50 Appendix L, Figs. L-2 thru L-19, configured as a PM₁₀ reference method, for a continuous 24-hour sample period at a flow rate of 16.7 Lpm, with original firmware version 6.X and lower or new firmware 2.0.0.0. or higher, operated in accordance with the original Model PQ100 Instruction Manual or manual revision Version 7.0, as appropriate, and with the requirements specified in 40 CFR Part 50, Appendix J, using either the original or the newer PQ200-type filter cassettes, and with or without the optional Solar Panel Power Supply.

Federal Register: Vol. 63, page 69625, 12/17/1998

Latest modification: 01/2009; 6/2015; 5/2016; 10/2020

BGI Incorporated Model PQ200 Air Sampler**Manual Reference Method: RFPS-1298-125**

“BGI Incorporated or Mesa Laboratories Incorporated Model PQ200 Air Sampler,” with “flat plate” PM₁₀ inlet or the louvered inlet specified in 40 CFR 50 Appendix L, Figs. L-2 thru L-19, configured as a PM₁₀ reference method, and operated with firmware version 6V001 or earlier, for a continuous 24-hour sample period in accordance with the Model PQ200 Instruction Manual and with the requirements specified in 40 CFR Part 50, Appendix J, and with or without the optional Solar Panel Power Supply.

Federal Register: Vol. 63, page 69625, 12/17/1998

Latest modification: 6/2015; 5/2018; 10/2020

DKK-TOA Models FPM-222/222C, FPM223/223C, and DUB-222(S)/223(S) PM₁₀ Monitor**Automated Equivalent Method: EQPM-0905-156**

“DKK-TOA Models FPM-222, FPM-222C, FPM-223, FPM-223C, DUB-222(S), and DUB-223(S) Particulate Monitor,” for monitoring PM₁₀ in Ambient Air (beta attenuation monitor), configured for PM₁₀, with Firmware Version DUB4-658355, Corrected Slope Factor (FACT SLOPE) set to 1.232, Corrected Zero Value (FACT ZERO) set to 1.8, and with or without any of the following options: Auto Check and Serial Recorder.

Federal Register: Vol. 70, page 56684, 09/28/2005

Ecotech Model 3000 PM₁₀ High Volume Air Sampler**Manual Reference Method: RFPS-0706-162**

“Ecotech Pty. Ltd. Model 3000 PM₁₀ High Volume Air Sampler,” configured with the Ecotech PM₁₀ Size-Selective Inlet (SSI)(P-ECO-HVS3000-02), with the flow rate set to 1.13 m³/min (67.8 m³/hour).

Federal Register: Vol. 71, page 42089, 07/25/2006

Environnement S.A. or ENVEA Model MP101M PM₁₀ Monitor**Automated Equivalent Method: EQPM-0404-151**

“Environnement S.A. or ENVEA Model MP101M PM₁₀ Beta Gauge Monitor,” configured with the louvered PM₁₀ inlet specified in 40 CFR 50 Appendix L or its flat-topped predecessor version and one of the three optional temperature-regulated sampling tubes (RST), and operated with the sample flow rate set to 1.00 m³/h and in accordance with the Ambient Air Continuous Particulate Monitor Model MP101M operation manual. With or without optional ESTEL analog inputs/outputs and touchscreen user interface, serial link: 1 RS-232/422; USB port; Ethernet port (TCP/IP). This designation applies to PM₁₀ measurements only.²

Federal Register: Vol. 69, page 18569, 4/8/2004

Latest modification: 9/2017, 8/2020

Focused Photonics Inc. BPM-200 PM₁₀ Monitor**Automated Equivalent Method: EQPM-0121-258**

“Focused Photonics Inc. BPM-200 PM₁₀ Monitor” operated in the following concentration ranges: 0-1 mg/m³, 0-2 mg/m³, 0-5 mg/m³, or 0-10 mg/m³, analyzing ambient conditions temperatures between -30°C to 50°C while the monitor can operate in a conditioned space between 0°C to 50°C. The unit is operated for 24-hour average measurements, with the FPI P/N 1010500687 EPA PM₁₀ inlet, glass fiber filter tape with axial inner diameter of 41mm (1360700223), the 220VAC 50Hz power supply, the FPI P/N 1010500688 Atmospheric Temperature Unit, the 1010500920 Air heating unit for maintaining moisture at about 35% and no ΔT control, the FPI P/N 1360600229 filter, the FPI P/N 1010500303 internal calibration device, 1041000215 Main Board, 1010503229 Interface board display. Instrument must be operated in accordance with the appropriate instrument manual and with software (firmware) version AQMSPlus.P005.V01A.US001.

Federal Register: Vol. 86, pages 12682-12683, 03/04/2021

Graseby Andersen/GMW Model 1200 High-Volume Air Sampler**Manual Reference Method: RFPS-1287-063**

“Sierra-Andersen or General Metal Works Model 1200 PM₁₀ High-Volume Air Sampler System,” consisting of a Sierra-Andersen or General Metal Works Model 1200 PM₁₀ Size-Selective Inlet and any of the high-volume air samplers identified as SAUV-10H, SAUV-11H, GMW-IP-10, GMW-IP-10-70, GMW-IP-10-801, or GMW-IP-10-8000, which include the following components: Anodized aluminum high-volume shelter with either acrylonitrile butadiene styrene plastic filter holder and motor/blower housing or stainless steel filter holder and phenolic plastic motor/blower housing; 0.6 hp motor/blower; pressure transducer flow recorder; either an electronic mass flow controller or a volumetric flow controller; either a digital timer/programmer, seven-day mechanical timer, six-day timer/programmer, or solid-state timer/programmer; elapsed time indicator; and filter cartridge.

Federal Register: Vol. 52, page 45684, 12/01/1987 and Vol. 53, page 1062, 01/15/1988

Particulate Matter – PM_{2.5}***Andersen Model RAAS2.5-200 PM_{2.5} Ambient Audit Air Sampler*****Manual Reference Method: RFPS-0299-128**

“Andersen Instruments, Incorporated Model RAAS2.5-200 PM_{2.5} Audit Sampler,” configured as a PM_{2.5} reference method and operated with software (firmware) version 4B, 5.0.1 - 6.09, 6.0A, or 6.0B, for a continuous 24-hour sample period at a flow rate of 16.67 liters/minute, and in accordance with the Model RAAS2.5-200 Operator’s Manual and with the requirements and sample collection filters specified in 40 CFR Part 50, Appendix L.

Federal Register: Vol. 64, page 12167, 03/11/1999

BGI Inc. Models PQ200 or PQ200A PM_{2.5} Ambient Fine Particle Sampler**Manual Reference Method: RFPS-0498-116**

“BGI Incorporated or Mesa Laboratories Incorporated Models PQ200 and PQ200A PM_{2.5} Ambient Fine Particle Sampler,” operated with firmware version 3.88, 3.89R, 3.91, 3.91R, 5.62, and 6V001, for a continuous 24-hour sample period, in accordance with the Model PQ200/PQ200A Instruction Manual and with the requirements and sample collection filters specified in 40 CFR Part 50, Appendix L, and with or without the optional Solar Power Supply or the optional dual-filter cassette (P/N F-21/6) and associated lower impactor housing (P/N B2027), where the upper filter is used for PM_{2.5}. The Model PQ200A is described as a portable audit sampler and includes a set of three carrying cases.

Federal Register: Vol. 63, page 18911, 04/16/1998

Latest modification: 6/2015; 06/2016; 12/2016; 5/2018; 10/2020

BGI Inc. Models PQ200-VSCC™ or PQ200A-VSCC™ PM_{2.5} Sampler**Manual Reference Method: RFPS-0498-116 or Manual Equivalent Method: EQPM-0202-142**

“BGI Incorporated or Mesa Laboratories Incorporated Models PQ200-VSCC™ or PQ200A-VSCC™ PM_{2.5} Ambient Fine Particle Sampler,” configured with a BGI Very Sharp Cut Cyclone (VSCC™) particle size separator and operated with firmware version 3.88, 3.89R, 3.91, 3.91R, 5.62, and 6V001, for a continuous 24-hour sample period, in accordance with the Model PQ200/PQ200A Instruction Manual and VSCC™ supplemental manual and with the requirements and sample collection filters specified in 40 CFR Part 50, Appendix L, and with or without the optional Solar Power Supply or the optional dual-filter cassette (P/N F-21/6) and associated lower impactor housing (P/N B2027), where the upper filter is used for PM_{2.5}. The Model PQ200A VSCC™ is described as a portable audit sampler and includes a set of three carrying cases.

Federal Register: Vol. 67, page 15567, 04/02/2002

Latest modification: 6/2015; 06/2016; 12/2016; 5/2018; 10/2020

Environnement S.A. or ENVEA Model MP101M PM_{2.5} Monitor**Automated Equivalent Method: EQPM-1013-211**

“Environnement S.A. or ENVEA Model MP101M PM_{2.5} Beta Attenuation Monitor” using a glass fiber filter tape roll, operated at a sample flow rate of 16.67 liters/min for 24-hour average measurements of PM_{2.5}, configured with the standard EPA PM10 inlet (meeting 40 CFR 50 Appendix L specifications) associated with a BGI Very Sharp Cut Cyclone (VSCC™) particle size separator and using a temperature regulated sampling tube with ambient meteorological sensor. With or without optional ESTEL analog inputs/outputs and touchscreen interface, serial link: 1 RS-232/422; USB port; Ethernet port (TCP/IP). Instrument must be operated in accordance with the Ambient Air Continuous Particulate Monitor Model MP101M operation manual. This designation applies to PM_{2.5} measurements only.

Federal Register: Vol. 78, page 67360, 11/12/2013

Latest modification: 9/2017, 8/2020

Graseby Andersen Model RAAS2.5-100 PM_{2.5} Ambient Air Sampler**Manual Reference Method: RFPS-0598-119**

“Graseby Andersen Model RAAS2.5-100 PM_{2.5} Ambient Air Sampler,” operated with software version 4B, 5.0.1 - 6.09, 6.0A, or 6.0B, configured for “Single 2.5” operation, for a continuous 24-hour sample period at a flow rate of 16.67 liters/minute, and in accordance with the Model RAAS2.5-100 Operator’s Manual and with the requirements and sample collection filters specified in 40 CFR Part 50, Appendix L.

Federal Register: Vol. 63, page 31991, 06/11/1998

Environnement S.A. or ENVEA SANOVA Multigas Longpath Monitoring System**Automated Equivalent Method: EQSA-0400-138**

“Environnement S.A. or ENVEA Model SANOVA Multigas Longpath Air Quality Monitoring System,” consisting of a receiver, one or more projectors, interface unit, a user-provided control unit computer running the SANOVA VisionAIR software, and associated incidental equipment; configured for measuring SO₂, with the temperature control and internal calibration cell options installed, operated with a measurement range of 0 to 0.5 ppm, over an installed monitoring path length of between 27 and 500 meters, within an ambient air temperature range of -30 to +45°C, with a measurement (integrating) time of 180 seconds, and with or without external temperature and barometric pressure sensors or any of the following options: external (meteo) input connection, series 1M bus connection, OGR type projector, analog outputs.

Federal Register: Vol. 65, page 26603, 05/08/2000

Latest Modifications: 08/2020

Focused Photonics Inc. (FPI) Model AQMS-500 SO₂ Analyzer**Automated Reference Method: RFSA-1219-255**

“Focused Photonics Inc. AQMS-500 SO₂ Analyzer” Ultraviolet Fluorescence (UVF) analyzer operated in the range of 0–0.5 ppm, with 5 µm, 47 mm diameter Teflon® (PTFE) filter installed, operated at temperatures between 20°C and 30°C, at nominal input line voltage of 220±10% VAC and frequency of 50 Hz, at a nominal sampling flow rate of 800±80 cc/min, and operated according to the FPI AQMS-500 User Manual.

Federal Register: Vol. 85, page 5958, 2/3/2020

Horiba Models APSA-360, APSA-360-CE, or APSA-360A-CE SO₂ Monitors**Automated Equivalent Method: EQSA-0197-114**

“Horiba Instruments, Inc. Models APSA-360, APSA-360-CE or APSA-360A-CE Ambient Sulfur Dioxide Monitor,” operated with a full scale range of 0 - 0.50 ppm, at any temperature in the range of 5°C to 40°C, with a Line Setting of "MEASURE," an Analog Output Setting of "MOMENTARY VALUE", and with or without any of the following options:² 1) Rack Mounting Plate and Side Rails, 2) RS-232 Communications Port, and 3) Internal zero gas and span gas generator.

"Horiba Instruments, Inc. Model APSA-360A-CE Ambient Sulfur Dioxide Monitor," operated with one of the following measurement ranges: 0-0.05 ppm, 0-0.1 ppm, 0-0.2 ppm, 0-0.5 ppm or 0-1.0 ppm; with selectable time constants from 10 to 300 seconds; at any temperature in the range of 5°C to 40°C; and with or without the optional internal zero gas and span gas generator.

Federal Register: Vol. 62, page 6968, 02/14/97; Vol. 63, page 31992, 06/11/1998

Horiba Model APSA-370 Ambient SO₂ Monitor**Automated Equivalent Method: EQSA-0506-159**

“Horiba Instruments Incorporated Model APSA-370 Ambient SO₂ Monitor,” operated with a full scale fixed measurement range of 0 - 0.50 ppm, with the automatic range switching off, at any environmental temperature in the range of 20°C to 30°C.²

Federal Register: Vol. 71, page 25587, 05/01/2006

KENTEK Inc. Model MEZUS 110 SO₂ Analyzer**Automated Equivalent Method: RFSA-1120-257**

“KENTEK Inc. Model MEZUS 110 SO₂ Analyzer,” UV fluorescence analyzer operated in a range of 0–0.5 ppm, with 0.5 µm, 47 mm diameter Teflon® filter installed, operated at temperatures between 20°C and 30°C, at a nominal sampling flow rate of 800 cc/min, using a 5 minute averaging time, with either 105VAC-125VAC or 200VAC-240VAC input power options installed, 280-watt power consumption, equipped with 7 inch LCD touch screen display, and operated according to the KENTEK Inc. Model Mezus 110 Sulfur Dioxide Analyzer User’s Instruction Manual.

Federal Register: Vol. 86, pages 12682-12683, 03/04/2021

Lear Siegler Model AM2020 SO₂ Monitor**Automated Equivalent Method: EQSA-0486-049**

“Lear Siegler Model AM2020 Ambient SO₂ Monitor,” operated on a range of either 0-0.5 or 0-1.0 ppm, at a wavelength of 299.5 nm, with a 5 minute integration period, over any 10°C temperature range between 20°C and 45°C, with or without the automatic zero and span correction feature.

Federal Register: Vol. 45, page 79574, 12/01/1980; Vol. 46, page 9997, 01/30/1981

Environnement S.A. or ENVEA Model O₃ 42e UV Ozone Analyzer**Automated Equivalent Method: EQOA-0515-225**

“Environnement S.A. or ENVEA Model O₃ 42e UV Photometric Ozone Analyzer,” operated in a range of 0–0.5 ppm in an environment of 0–35 °C, with a Teflon sample inlet filter, with automatic temperature and pressure compensation, with a flow-rate of 1 Lpm and with zero/span external solenoid valve.

Federal Register: Vol. 80, page 32114, 6/05/2015

Latest Modifications: 08/2020

Focused Photonics Inc. (FPI) Model AQMS-300 O₃ Analyzer**Automated Equivalent Method: EQOA-0719-253**

“Focused Photonics Inc. AQMS-300 O₃ Analyzer” UV photometric analyzer operated the range of 0–0.5 ppm, with 5 µm, 47 mm diameter Teflon®(PTFE) filter installed, operated at temperatures between 20°C and 30°C, at nominal input line voltage of 220±10% VAC and frequency of 50 Hz, at a nominal sampling flow rate of 800±80 cc/min, and operated according to the FPI AQMS-300 User Manual.

Federal Register: Vol. 84, page 44299, 8/23/2019

Horiba Instruments Models APOA-360 or APOA-360-CE Ozone Monitor**Automated Equivalent Method: EQOA-0196-112**

“Horiba Instruments, Inc. Model APOA-360 or APOA-360-CE Ambient Ozone Monitor,” operated with a full scale range of 0 - 0.50 ppm, at any temperature in the range of 10°C to 40°C, with a Line Setting of "MEASURE," and an Analog Output of "MOMENTARY VALUE," and with or without any of the following options:² 1) Rack Mounting Plate and Side Rails 2) RS-232 Communications Port, and 3) Optional Internal Zero/Span Check

Federal Register: Vol. 61, page 11404, 03/20/1996

Horiba Instruments Model APOA-370 Ozone Monitor**Automated Equivalent Method: EQOA-0506-160**

“Horiba Instruments Incorporated APOA-370 Ambient O₃ Monitor,” standard specification, operated with a full-scale fixed measurement range of 0 - 0.5 ppm, with the automatic range switching off, at any temperature in the range of 20 to 30°C.²

Federal Register: Vol. 71, page 25587, 05/01/2006

KENTEK Inc. MEZUS 410 O₃ Analyzer**Automated Equivalent Method: EQOA-0219-251**

“KENTEK Inc. Model MEZUS 410 O₃ Analyzer,” UV photometric analyzer operated in a range of 0–0.5 ppm, with 0.5 µm, 47 mm diameter Teflon® filter installed, operated at temperatures between 20°C and 30°C, with temperature and pressure compensation, at a nominal sampling flow rate of 800 cc/min, using a 5 minute averaging time, with either 105VAC-125VAC or 200VAC-240VAC input power options installed, 230-watt power consumption, equipped with 7 inch LCD touch screen display, and operated according to the KENTEK Inc. Model Mezus 410 Ozone Analyzer User’s Instruction Manual.

Federal Register: Vol. 84, page 11973, 03/29/2019

McMillan (MEC) Models 1100-1, 1100-2, and 1100-3 Ozone Meters

“MEC Model 1100-1 Ozone Meter,” Automated Reference Method: RFOA-1076-014

“MEC Model 1100-2 Ozone Meter,” Automated Reference Method: RFOA-1076-015

“MEC Model 1100-3 Ozone Meter,” Automated Reference Method: RFOA-1076-016

Operated on a 0-0.5 ppm range, with or without any of the following options: 0011 Rack Mounting Ears; 0026 Alarm Set Feature; 0012 Instrument Bail; 0033 Local-Remote Sample; Zero, Span Kit Blend Feature; 0016 Chassis Slide Kit; 0040 Ethylene/CO₂.

Federal Register: Vol. 41, page 46647, 10/22/1976; Vol. 42, page 30235, 06/13/1977

Meloy Model OA325-2R Ozone Analyzer**Automated Reference Method: RFOA-1075-003**

“Meloy Model OA325-2R Ozone Analyzer,” operated with a scale range of 0-0.5 ppm, with or without any of the following options: 0-4 Output Booster Amplifier; 0-18 Rack Mount Conversion; 0-18A Rack Mount Conversion.

Federal Register: Vol. 40, page 54856, 11/26/1975

Environnement S. A. or ENVEA Model AC32M NO₂ Analyzer**Automated Reference Method: RFNA-0202-146**

“Environnement S. A. Model AC32M Chemiluminescent Nitrogen Oxides Analyzer,” operated with a full scale range of 0 - 500 ppb, at any temperature in the range of 10°C to 35°C, with a 5-micron PTFE sample particulate filter, with response time setting 11 (automatic response time), and with or without the following option: Internal permeation oven.

Federal Register: Vol. 67, page 15567, 04/02/2002

Latest Modifications: 08/2020

Environnement S.A. or ENVEA SANOVA Multigas Longpath Monitoring System**Automated Reference Method: EQNA-0400-139**

“Environnement S.A. or ENVEA Model SANOVA Multigas Longpath Air Quality Monitoring System,” consisting of a receiver, one or more projectors, interface unit, a user-provided control unit computer running the SANOVA VisionAIR software, and associated incidental equipment; configured for measuring NO₂, with the temperature control and internal calibration cell options installed, operated with a measurement range of 0 to 0.5 ppm, over an installed monitoring path length of between 27 and 500 meters, within an ambient air temperature range of -30 to +45°C, with a measurement (integrating) time of 180 seconds, and with or without external temperature and barometric pressure sensors or any of the following options: external (meteo) input connection, series 1M bus connection, OGR type projector, analog outputs.

Federal Register: Vol. 65, page 26603, 05/08/2000

Latest Modifications: 08/2020

Environnement S.A. or ENVEA Model AS32M Nitrogen Dioxide Analyzer**Automated Equivalent Method: EQNA-1013-210**

“Environnement S.A. or ENVEA Model AS32M cavity attenuated phase shift spectroscopy Nitrogen Dioxide Analyzer”, operated on any full scale range between 0-500 ppb and 0-1000 ppb, at any ambient temperature in the range of 20°C to 30°C, with automatic response time ON, set to 11, in accordance with the associated instrument manual; with sample particulate filter; zero gas inlet and zero check enabled; sample permeation dryer. Serial link: 2 RS-232; USB port; Ethernet port (TCP/IP); onboard html web server and, with or without any of the following options: internal permeation bench; ESTEL analog inputs/outputs.

Federal Register: Vol. 78, page 67360, 11/12/2013

Latest Modifications: 08/2020

Focused Photonics Inc. Model AQMS-600 Nitric Oxides Analyzer**Automated Reference Method: RFNA-0819-254**

“Focused Photonics Inc. Model AQMS-600 Chemiluminescent Nitric Oxides Analyzer,” operated with a measurement range of 0-0.5 ppm, equipped with a 1-micron, 47mm diameter Teflon®(PTFE) sample inlet filter, at any temperature in the range of 20°C to 30°C, with Molybdenum NO_x converter operating at 315°C, at a nominal sample flow rate of 500±50 cc/min, with an ozone flow rate of 80±10% cc/min, at nominal input line voltage of 220±10% VAC and frequency of 50 Hz. Analyzer operated and maintained in accordance with the Model AQMS-600 Nitric Oxides Analyzer User Manual.

Federal Register: Vol. 84, page 50833, 9/26/2019

Horiba Instruments Models APNA-360 or APNA-360-CE NO-NO₂-NO_x Monitor**Automated Reference Method: RFNA-0196-111**

“Horiba Instruments, Inc. Models APNA-360 or APNA-360-CE Ambient NO-NO₂-NO_x Monitor,” operated with a full scale range of 0 - 0.50 or 0 - 1.0 ppm, at any temperature in the range of 10°C to 40°C, with a Line Setting of "MEASURE", and an Analog Output of "MOMENTARY VALUE", and with or without the following options:² 1) Rack Mounting Plate and Side Rails 2) RS-232 Communications Port.

Federal Register: Vol. 61, page 11404, 03/20/1996

Horiba Instruments Model APNA-370 NO₂ Monitor**Automated Reference Method: RFNA-0506-157**

“Horiba Instruments Incorporated Model APNA-370 Ambient NO_x Monitor,” standard specification, operated with a full scale fixed measurement range of 0 - 0.50 ppm with the automatic range switching off, at any ambient temperature in the range of 20°C to 30°C, and with a 0.3 micrometer sample particulate filter installed.²

Federal Register: Vol. 71, page 25587, 05/01/2006



FPI India Pvt. Ltd., a division of Focused Photonics Inc (FPI)

Model No :

REAL TIME ATMOSPHERE PARTICULATE MONITOR FOR PM10 PM2.5 WITH BETA ATTENUATION



TRIPURARI ENTERPRISES Pvt.Ltd

H.O:710 Eastren Mall , Dangratoli,Ranchi-834001,Jharkhand,India

Contact : 0651-3211737,+91-9835811737

Website: tripurarienterprises.com,E-mail:tripurarienterprisespvt.ltd@gmail.com

Date : 12th January, 2022

TO WHOM SO EVER IT MAY CONCERN

We **FPI India Pvt. Ltd.**, a division of **Focused Photonics Inc (FPI)**, manufacturers of Environmental Monitoring Instruments as below:

- **Continuous Ambient Air Quality Monitoring Stations**
- **Continuous Stack Emission Analysers**
- **On-Line Stack Dust Monitors**
- **Stack Mercury Analysers**
- **Process Gas Analysers**

do are here with confirm that **M/s. Tripurari Enterprises Pvt. Ltd.(TEPL), 710,7th Floor,Estren Mall , Dangratoli-834001,Ranchi, Jharkhand** is our Non-exclusive Distributor in the state of Jharkhand.

Tripurari Enterprises Pvt Ltd (TEPL), Ranchi is authorized to participate directly on any Gov./Non Gov. or Others tenders, Financial Bid on behalf of **FPI India Pvt. Ltd**

We hereby extend our full guarantee and warranty for the Goods, Supply of Spares and Services offered by the above firm on our behalf.

Yours Sincerely
for **FPI India Pvt. Ltd.**,



Authorised Signatory



Date:30th December,2021

EXCLUSIVE CHANNEL PARTNERSHIP

We **FPI India Pvt.Ltd.**,adivision of **Focused Photonics Inc (FPI)**,manufacturers of Environmental Monitoring Instruments as below:

- **Continuous Ambient Air Quality Monitoring Stations**
- **Continuous Stack Emission Analysers**
- **On-Line Stack Dust Monitors**
- **Stack Mercury Analysers**
- **Process Gas Analysers**

Do are here with confirm that **M/s.Tripurari Enterprises Pvt. Ltd.(TEPL),710,7thFloor,Estren Mall , Dangratoli-834001,Ranchi, Jharkhand** is our Exclusive Channel Partner in the state of Jharkhand.

Tripurari Enterprises Pvt Ltd (TEPL), Ranchi is authorized to participate directly on any Gov./Non Gov. or Others tenders, Quotation, Financial Bid on behalf of **FPI India Pvt. Ltd**

We here by extend our full guarantee and warranty for the Goods, Supply of Spares and Services offered by the above firm on our behalf.

Validity of Exclusive Channel Partnership From 30/12/2021 to 29/11/2031. (For Ten Years)



Yours Sincerely
For FPI India Pvt. Ltd.,



Authorised Signatory
R. Saroja
Sr. Manager - Marketing
9100050851 / 9908082848