

AQMS-500 Sulfur Dioxide Analyzer

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



Principle

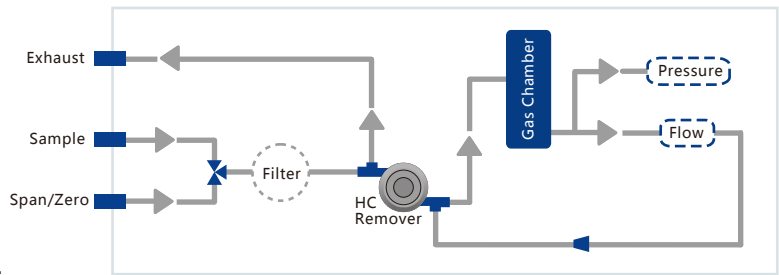
AQMS-500 measures the intensity of the characteristic fluorescence released by SO₂ in an ambient air sample contained in the gas chamber when the air sample is irradiated by ultraviolet light passed through the chamber.

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

Principle	UV Fluorescence
Standard Range	US EPA Specification:0-500ppb
Zero Noise	≤0.25ppb (RMS)
Span Noise	≤2.5ppb (RMS)
Display	Digital
Lower Detectable Limit	0.5ppb
Zero Drift	<1ppb/24h
Span Drift	<1%
Linearity	<1%F.S.
Precision	<1%
Response Time	T90<120s
Sample Flow Rate	(650±65)sccm
Data Transmission	2 channel analog (4~20) mA; 2 analog (0~5) V; 12 digital input/output; 4-way relay output;
Calibration	Multi-point calibrator
Communication	RS232/RS485/Ethernet
Operating Temperature	US EPA Specification 20~30°C Actual applicable:0~40°C
Operating Humidity	0~95%RH(No:condensation)
Power Requirement	(220±22)V AC (50±1)Hz; 110V/60Hz
Dimensions and Weight	178(H)x432(W)x609(D)mm, 22kg