



AGA1050 FLUE GAS ANALYZER



With the implementation of ultra-low emission standards, the traditional infrared principle flue gas analyzer can not meet the increasingly stringent environmental requirements. The AGA1050 series flue gas analyzer uses the ultraviolet differential (DOAS) technology to directly measure the gas absorption spectrum. Compared with the principle of infrared absorption, AGA1050 has higher accuracy and the lower limit can reach 0.1ppm. It is suitable for the emission monitoring of nitrogen oxides and sulfur dioxide in flue gas emissions such as thermal power emission and waste incineration and meets the requirements for ultra-low emission online monitoring.

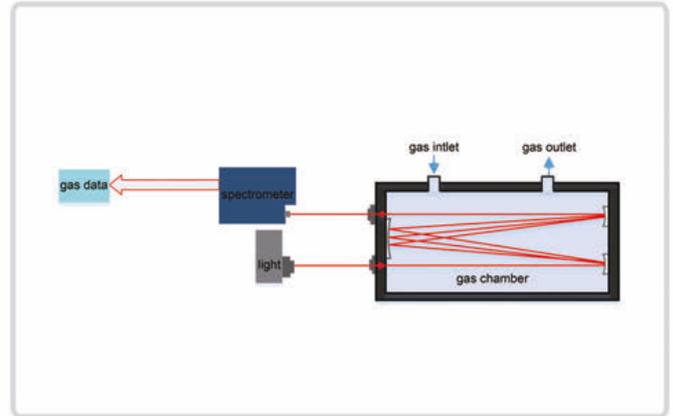
APPLICATIONS

- ✓ Coal industry and power plants
- ✓ Cement plant
- ✓ Industrial furnace
- ✓ Desulfurization and denitrification process
- ✓ waste incineration
- ✓ Sulfur recovery



Differential Optical Absorption Spectroscopy(DOAS)

The AGA1050 analyzer is based on UV absorption spectroscopy and differential absorption spectroscopy (DOAS) to measure SO₂ and NO_x gas concentrations. The analyzer consists of components such as light source, gas chamber, optical fiber, and spectrometer (including aperture, a holographic grating, and a line array detector). The ultraviolet light emitted by the light source enters the gas chamber through the optical window, is absorbed by the sample gas flowing through the gas chamber, and the light carrying the absorption information is concentrated by the lens, coupled into the optical fiber, and sent to the spectrometer for transmission by the optical fiber. After treatment, the absorption spectrum of the gas can be obtained. By performing a differential analysis of the spectra combined with a chemometric algorithm, the concentration of the relevant components in the gas can be derived.



UV Absorption Parameters for Common Gas

Gas name	Gas	Absorption band range (nm)	Differential absorption cross section (cm ² /molecule)
Sulfur dioxide	SO ₂	200-230	6.5x10 ⁻¹⁸
		290-310	5.7x10 ⁻¹⁸
Nitric oxide	NO	200-230	2.4x10 ⁻¹⁸
Nitrogen dioxide	NO ₂	200-230	2.6x10 ⁻²⁰
		330-500	2.5x10 ⁻¹⁹

Note: The table only lists the commonly used band ranges and does not represent the actual band of the UV analyzer.

FEATURES

- Direct measurement of the gas absorption spectrum, no cross interference, high measurement accuracy, the lowest limit can reach 1ppm.
- Spectral analysis technology, non-direct contact with gas, free from moisture and dust interference.
- Simultaneous measurement of the concentration of multiple gas components by analysis of continuous spectra
- The pulsed xenon lamp source does not require preheating and has a service life of up to 10 years.
- Holographic grating splitting and array sensors for high stability. High-permeability optical glass, special custom coated mirrors, and new light path design for superior performance.
- Color touch screen, concentration curve, historical data and multiple information displayed.
- RS485 signal output, multiple switching output, can be matched with CEMS system.
- Standard 4U housing design for easy installation in the cabinet.
- Soft start and watchdog function, the program is much stable without crash.

SPECIFICATIONS

Model AGA1050

Function

measure range SO₂:0-50ppm NO:0-100ppm O₂:0-30%VOL

principle DOAS(SO₂,NO); ECD(O₂)

accuracy ±2%FS

resolution 1ppm/0.1%VOL

repeatability 2%

zero drift ±2%/7d

span drift ±2%/7d

response time ≤45s/T90

operating temp. 0°C-40°C

warm up time ≤30mins

Electric

display color LCD 800*480

power supply 220VAC/50Hz

power consumption ≤100W

signal input 4-20mA,digital relays

signal output 4-20mA,RS485,8 relays

Sampling

flow rate 0.5L/min

humidity 0-95%RH

oil mist/
other mist <2.0mg/ft³ (filter is required if over 2.0mg/ft³)

solid particle <2.0mg/ft³ (filter is required if over 2.0mg/ft³)

Structure

connection CEE power socket 1pc;DB25 signal outlet 2pcs; RS485 DB9 adaptor 1pc;
φ6 gas inlet 1pc; φ6 gas outlet 1pc

body material carbon steel

dimensions 490mm*180mm*430mm (H*W*D)

weight about 13.8kg

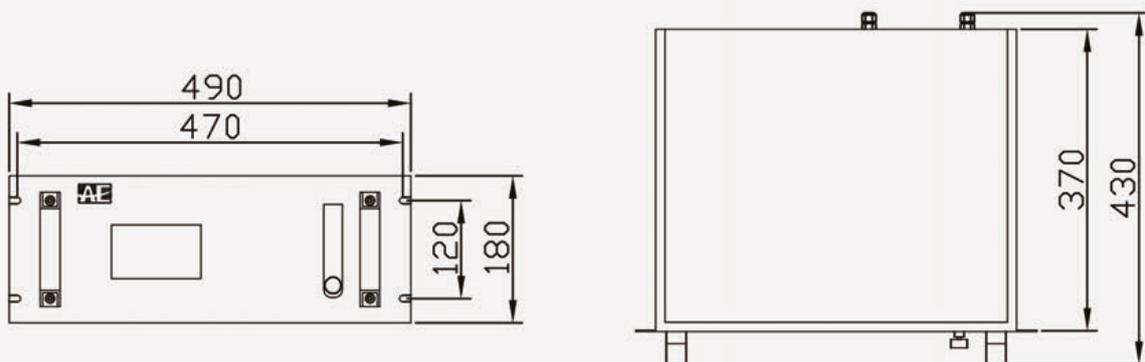
Certificate

EX 2018CA0067-32

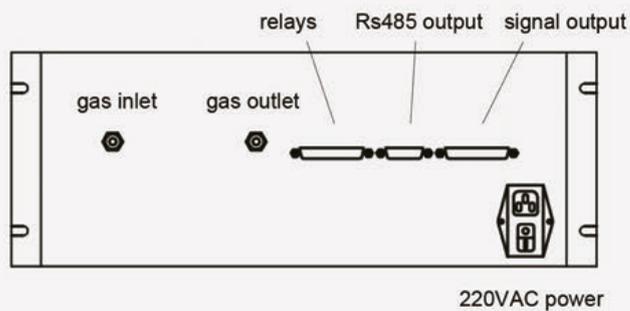
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Note: Oxygen is monitored by electrochemical principle. For performance parameters, please refer to the electrochemical gas analyzer.

DIMENSIONS



CONNECTION



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