



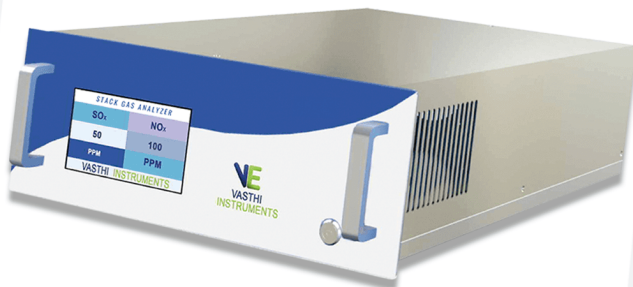
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INSTRUMENTS

Extractive Flue Stack Gas Analyzer



OMGA
2000



Overview -

Vasthi OMGA-2000 UV online monitoring gas analyzer is an one-site installation gas analyzer which is developed after years reaching and design on online gas analysis instruments. It can monitor gas parameters including concentration of SO₂, NO_x, O₂, Dust, Humidity, Temperature, Flow and etc. It is widely applied to tall gas emission monitoring and process analysis in many fields, including coal fired power plant, waste to energy plant, cement factory, glass factory , lime factory, sinter coke oven, DeSox process and DeNox process

Flow Principles -

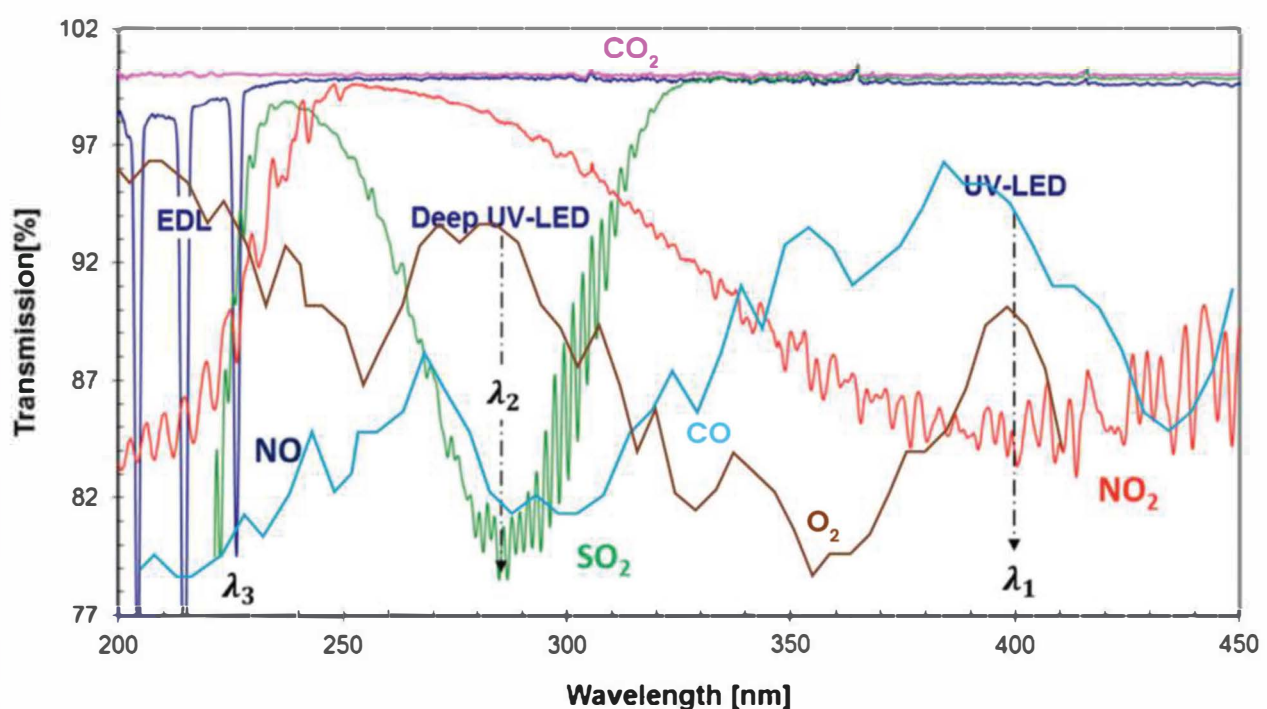
- Under the work of high temp sampling pump, the gas passes through sampling probe (filter cartridge included), ball valve, heating tracer, secondary filtration, and then enters into UV analysis module and finally be drained. By adopting 150°C high temp heat tracing for whole process, it can effectively prevent SO₂, NO_x and other gas detected gases from being dissolved and loss for condensated water.
- By controlling back blowing valve impulse ,the system can regularly back-blow the filter cartridge of sampling probe and close the ball valve that prevent high level dust from blocking the filter cartridge.
- The analyzer supports auto/manual calibration (zeroing and span calibration); the measuring flow path need to be closed when calibration is working.
- Pressure transmitter can be used to compensate measuring valve and also to check if the probe is blocked.
- Secondary filtration is adopted to protect UV analysis module to ensure it will not be polluted by flue gas and dust when probe is leakage or temperature control is invalid.

Non-Dispersive Ultra Violet Spectroscopy (NDUV)

The ultra-violet absorption method works on the principle that ozone absorbs ultra-violet rays in the area of 254 nm. Measurements are taken from continuous, alternate injections of the sample gas and the reference gas into the measurement cell, controlled by a long-life solenoid valve. The cross flow modulation method is characteristically zero-drift free. A comparative calculation circuit automatically compensates for all fluctuations in the mercury vapor light source and in the detector. This means that, in principle, VASTHI make it possible to carry out zero-span drift free, continuous measurements

The design from 1975 (pictured above) is a Nondispersive infrared sensor. It is the first improved analyzer that is able to detect more than one component of a sample gas at one time. Earlier analyzers were held back by the fact that a particular gas also has lower absorption bands in the infra red

The invention of 1975 has as many detectors as the number of gases to be measured. Each detector has two chambers which both have an optically aligned infrared source and detector, and are both filled with one of the gases in the sample of air to be analyzed. Lying in the optical path are two cells with transparent ends. One contains a reference gas and one will contain the gas to be analyzed. Between the infrared source and the cells is a modulator which interrupts the beams of energy.



Technical Parameters:

Measurement Principle	NDUV, TDLAS, NDIR, FTIR & Zirconia
Measurement Range:	SO ₂ : 0-50ppm-1500ppm, customizable NO: 0-50ppm-1500ppm, customizable NO ₂ : 0-250ppm-4000ppm, customizable O ₂ : 10% 0-25% Customizable CO: 1000ppm & 5000ppm Customizable CO ₂ : 0-10%, 40% & 100% Customizable
Detection Limit	0.1ppm
Zero Drift	±2%F.S.
Span Drift	±2%F.S.
Response	< 90s
Analog Output Interface	4*4-20mA output.
Digital Output Interface	2*SPCO output
Communication interface	RS232/RS485/4-20mA
Heat Tracing Temperature	50°C-200°C (can be set)
Ambient Temperature	-10°C-+45°C
IP Code	IP65
Power supply	230V AC, 50Hz
Compresses Air	Clean, dry, oil free (dew Point < -20°C) @ (0.5-0.70)MPa
Rated Flow	200L/min for back blow)

Features:

1. OMGA- 2000 adopts NDUV and PLS which is the hard hitting online analysis technology for measuring SO₂, NO_x and other gases with low detection limit 0.1 ppm;
2. Uses pilsed xenon lamp as light source with 109- time service life; high stability; no pre-heating time;
3. Is with no light- cutting, interferometer or other optical moving parts; high reliability; on site vibration will have no damage to analyzer and no impact on measured value;
4. Directly detects NO and NO₂ to obtain NO_x without NO₂ NO converter;
5. User modularization design of light source, spectrometer, HMI module, gas chamber, interface module and etc.; with high reliability and extensibility; easy to maintain;
6. Splits light by holographic granting; detects by diode array; finally gets complete successive absorption spectrum; is with high resolution; guarantees low detection limit, low temperature drift and fast response time.



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