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VASTHI  
INSTRUMENTS

# In-Situ Flue Stack Gas Analyzer



OMGA  
2000 IN

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Plot No. 21 & 22, Block No. 24,  
Phase - 4, AutoNagar,  
Guntur 522 001, AP

## Focusing on Environmental & Industrial Analysis

### • Instrument Introduction

OMGA-2000 Flue Gas Analyzer is a highly integrated single-flange gas monitoring equipment, of which, core detection module adopts

A nondispersive infrared (NDIR) and Differential Optical Absorption Spectroscopy (DOAS) gas absorption technology with independent intellectual property rights.

The specially designed measuring cell effectively improves optical path length for gas absorption, which can measure trace gas accurately inside pipeline

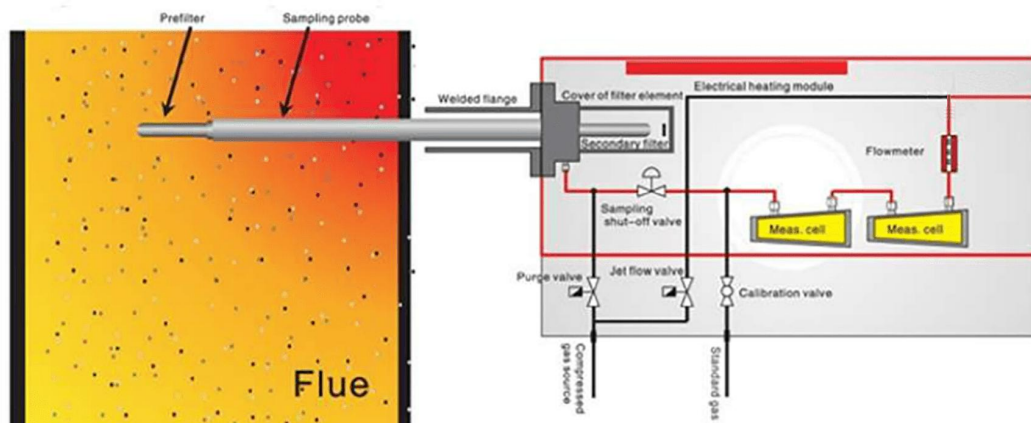
!!ILTA- I000can be widely applied in online gas monitoring occasions including denitrification device, boiler flue and exhaust detection, etc. One equipment can realize online monitoring for multiple gas components, such as CO, C S , NO, NO,, etc.

### • System Flow Path

Under effect of high-temperature sampling pump, high-temperature process gas passes through prefilter, sampling probe and secondary filter before entering gas analysis module for gas concentration monitoring and at last it will be discharged.

For better application, it is equipped with high-temperature electrical heat tracing inside equipment and the parts directly contacting with chimney pipe adopt anti-corrosion treatment, which can effectively solve the problems of process gas absorption (caused by gas condensation), dissolution (caused by gas condensation) or corrosion.To avoid dust blocking, the device will close sampling valve automatically and control purge valve to clean filter element at fixed Time,

Ensuring long term and stable operation of system.



## • Features

- 1 Filter element can be easily disassembled and replaced
- 2 Adopt single—flange design with high integration and easy installation
- 3 With high-temperature flowmeter, user can observe flow during equipment operation
- 4 Sampling measurement is free from interference of pipeline deformation, high dust and other working condition change, with strong adaptability
- 5 The whole gas path is equipped with high-temperature heat tracing and regular auto purge to prevent dust and crystal like salt from blocking the equipment, less maintenance

## • Technical Parameter

### TDLAS Technical Index

Principle	NDIR
Component CO:	0— 3000ppm, CO <sub>2</sub> : 0—25%
SO <sub>2</sub> :	0-3000ppm
NO <sub>2</sub> :	0-1500ppm
Accuracy :	+/- 2 % Measured value Repeatability a + 2%F.S.
Zero drift	± 2 % Per/Month
Span drift	± 2 % per /month

### Technical Index

Response Time	Detector Response time > 10 Sec
Calibration Response time	200 Sec.

Operating Temp	450 Deg. C
Calibration	Manual & Automatic calibration facility for both Zero & SPAN
Probe MOC	SS316L 1.8 Meter
Display	Digital with Micro controller
Analyser Body	IP 65 dust proof



- **Technical Principle**

**NDIR Principle**

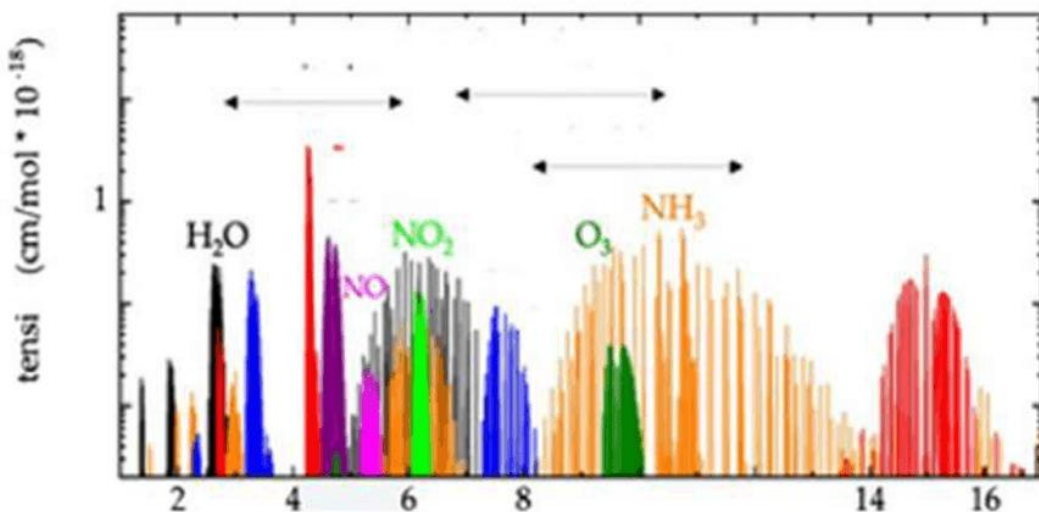
The main components of an NDIR sensor are an infrared (IR) source (lamp), a sample chamber or light tube, a light filter and an infrared detector.

The IR light is directed through the sample chamber towards the detector.

In parallel there is another chamber with an enclosed reference gas, typically nitrogen.

The gas in the sample chamber causes absorption of specific wavelengths according to the Beer–Lambert law, and the attenuation of these wavelengths is measured by the detector to determine the gas concentration

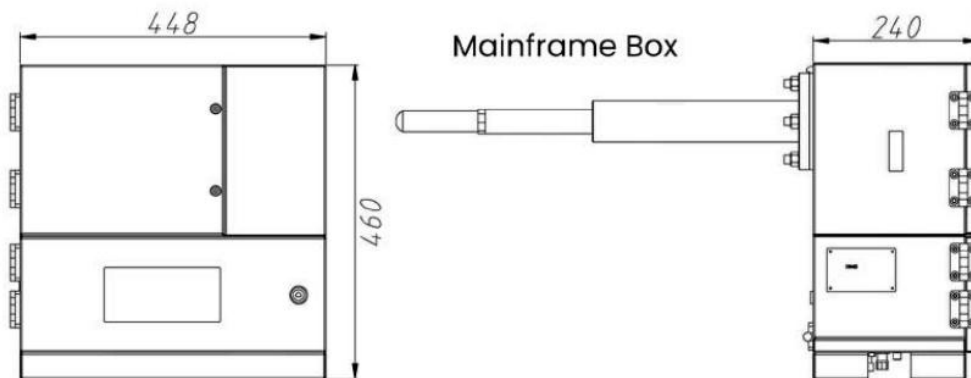
The detector has an optical filter in front of it that eliminates all light except the wavelength that the selected gas molecules can absorb



### • Instrument Parameter

Power Supply	230 V AC $\pm$ 10 % 50 Hz
Instrument gas source	0.4MPa-0.8MPa, oil-free, water-free & dust-free
Response time	10s (double modules)
Analog output	5X4-20mA output (depend on gas combination)
Switch output	4 X relay output
Digital output	1 x RS485 output
Ambient temperature	-20 & -60
Ambient humidity	$\alpha$ 90% RH, non condensing
Dimension	448mm(L)"420mm(W)"240mm(D)
Weight	About 45 kg

### • Dimensions



## VASTHI INSTRUMENTS

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