UNISEARCH A team of people committed to mutual respect, professional conduct and a passion for excellence.

A monitoring solution for every situation.

DOAS Instruments

DOAS-E - Extractive Analyzer
An analyzer incorporating an internal extracive cell in which the measurements are made. The low volume of the extractive cell makes the system suitable for applications where fast response and small gas volumes are important.

DOAS-R - In-situ Stack Analyzer
An analyzer which interfaces with optics designed for durability, for in-situ, real time stack and duct measurements. fiber optics may be used to bring the light to and from the stack optics. Depending on the species being monitored fiber lengths of between 1 and 10 m can be used. In-situ monitoring is only applicable for low dust environments.

Improve energy efficiency, reduce costs, and safeguard work environments with in-situ, real time gas analyzers for CEMS, combustion, environmental, fugitive emissions, health, safety and process monitoring.

Sales and Service

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AUTHORIZED REPRESENTATIVE

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DOAS Stack Systems

Industrial Gas Monitors.

For CEMS, combustion, environmental, fire detection, fugitive emissions, health, safety and process monitoring applications.

Providing accurate, reliable and continuous measurements at a real-time process level with an exceptional life cycle value.

UNISEARCH ASSOCIATES INC

Stack / Duct Optics:

Path Length: Up to 2 meters

Dynamic Range: 5 orders of magnitude

Response Time: 0.1 seconds and higher

Calibration: Factory set

Light Source: Deuterium lamp/Xe Arc lamp

Air Purge Requirements - *depending on conditions*
50 psi @ 15 L/min

Environmental Conditions
Gas: -100 to +1800 ºC, 5 - 95% RH, 25 - 2000 mbar
Optics: -40 to 65ºC, 5-95% RH, 25 - 2000 mbar

Optic Dimensions
Transmitting / Receiving Optic Set: *(Mounted inside NEMA enclosure) | (5 kg)*

NEMA Enclosure: 12"(H) x 10"(W) x 10"(D)
(30 x 25 x 25 cm) | (10 kg)

Outputs & Networking
USB, 4-20mA, Status relays

Data Logging and Display Software
LasIRView,
Optional Key available for diagnostic package

Data Storage
On-board computer

Power Supply
Input 100 - 240 VAC @50-60Hz, +12 VDC
Output: 12V, 60w
Operating Voltage: 12 VDC
Optional 12V Battery

In-Situ Optical Sensors

Sensors mounted on the stack or duct continuously measure the process flow of gases and emissions.

Stacks and Ducts. The DOAS-R is able to monitor Stacks and Ducts with standard flange connections. Requires line of sight across stack/duct and low dust levels.

Extractive Configuration

The analyzer measures using an internally mounted extractive cell. Suitable for fast response, low gas volumes and dusty environments.

The DOAS-E is able to monitor stack and duct gases by sampling the filtered gas into an internally mounted cell. The light source and sensor are all internal to the analyzer.

Real Time Monitoring & Analysis

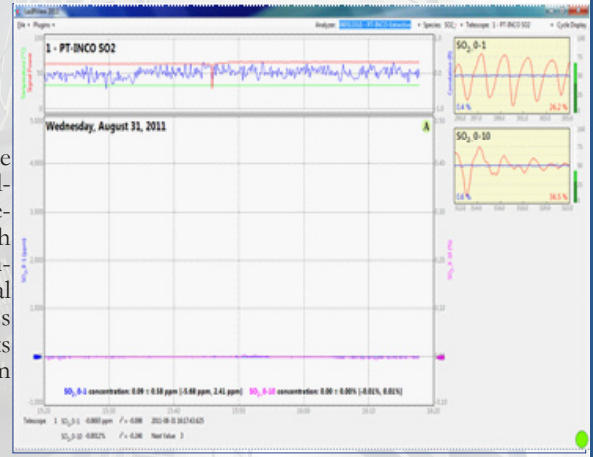
Measurements are taken and analyzed at rates as fast as 0.1 second.

Multiple Species. Depending on the gas and the laser wavelength, simultaneous measurements of up to 4 different gas species with a single analyzer are possible.

Data Logging & Storage

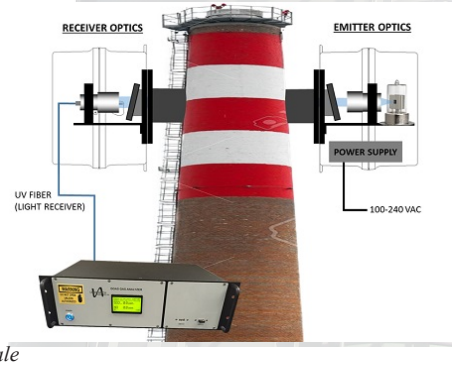
The DOAS analyzes and stores data on a host computer provided with the system.

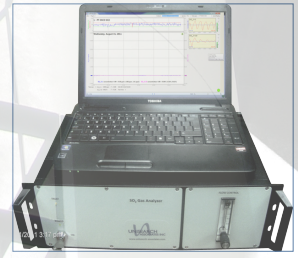
Data Logging. LasIRView software program that can be used to display Real-Time measurements, edit basic parameters such as sampling time, path length etc. and download archived data (via ethernet) for trend analysis on an external computer. An optional Key allows access to the diagnostics package which permits adjustment of the full range of system settings.



DOAS-E and DOAS-R

Extractive and In-Situ Stack / Duct Gas Monitors





*images not to scale

Sensitivities

Analyzer:

DOAS-R
5.25"H x 17"W x 11"D approx.
[13 x 43 x 28 (cm)] *Weight*: (6 kg)

Stack Optics:
NEMA Enclosure:
12"(H) x 10"(W) x 10"(D)
(30 x 25 x 25 cm) Weight: (10 kg)

DOAS-E
5.25"H x 17"W x 11"D
[13 x 43 x 28 (cm)] *Weight:* (8 kg)

Internal extractive cell 10 cm path.

Optional external extractive cells.
Paths up to 1 m.

Gas	Detection Limits* (ppbv-m)	ug/m^3
NO	600	800
NO_2	75	150
NH_3	10	8
HCHO	3000	4000
SO_2	300	900
SO_3	500	1850
O_3	35	75
Benzene	170	600
Toluene	600	2450

**Optimal Detction Limit will vary depending on measurement conditions.*

DOAS instruments are designed and built to comply with CSA, UL and CE requirements:
General Safety: IEC 61010
Electro-Motive Compliance: IEC / EN 61000

DOAS Stack and Extractive Systems