

## TDS

# *OPTIX*, an instrument for in-vacuum gas sensing

## Easy monitoring & control of your vacuum processes

Optix is a multi-purpose instrument for gas sensing in any vacuum environment, functioning through a wide range of operating pressures to cater for most industrial vacuum production processes without any requirement for differential pumping.

The system is based on remote plasma gas analysis (RPGA) optical method. It operates at the most common pressures.

### Features

- Highly robust and easy to install and use
- Quantitative gas analysis down to 2ppm
- Process gas tracking with triggers/alarm outputs
- Accurate pressure and gas information down to  $10^{-6}$  mbar
- Fast response time
- Full spectrum view
- Process water tracker with triggers/alarm outputs
- Vacuum switch to prevent accidental operation at atmosphere
- In-built vacuum pressure reading



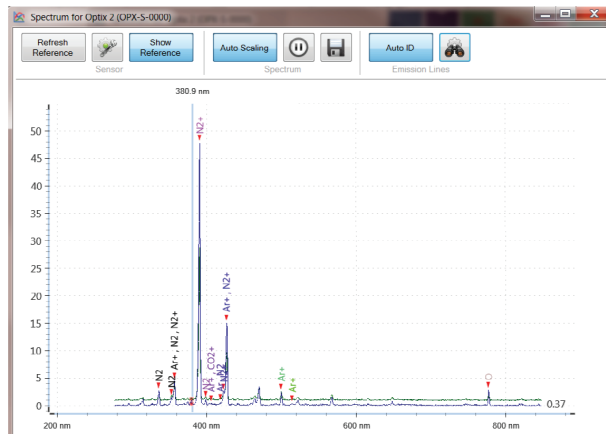
### Advantages

- Improves quality of products and repeatability
- Identify vacuum or process problems
- Maps the process environment to ensure reliable production
- No need for differential pumping
- Direct link to Speedflo reactive gas controller or PLC for feedback control

TDS\_Optix\_V1

## Principle of operation

Optix uses a remote plasma spectroscopy concept which generates a small plasma within the sensor head, which is then analysed by its built-in spectrometer. The light spectrum is automatically interpreted to provide qualitative measurement of the presence and concentration of gas within the vacuum.



## A large range of applications

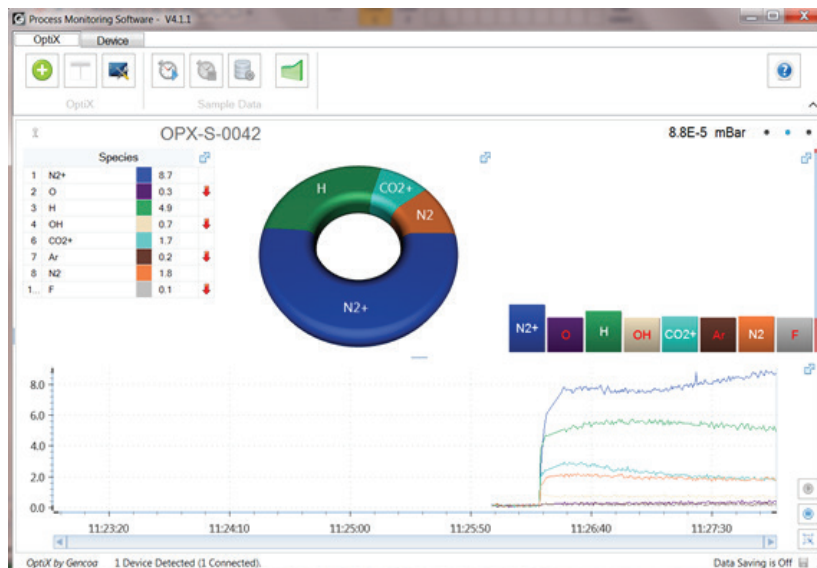
The Optix spectral information and sophisticated back-end software creates a range of uses for the following vacuum processes:



- ALD
- Contamination check
- CVD
- Plasma treatment
- Heat treatment
- Leak Detection (any species)
- Vacuum Quality Monitoring
- Process Pump-Down Analysis
- OLED
- PVD
- End-Point Detection (RIE) ...

## Interface

An advanced Windows user interface provides clear visualisation of the condition of the process and vacuum. Powerful tools for recording and referencing data enable easy identification of process problems.



## Software features

- Built-in spectrum database for atomic and molecular emission signatures
- Automatic spectrum interpretation
- Time plots for automatically or user defined species
- Customisable trigger set-up for end point detection or process control
- Vacuum quality tracker
- Leak detection mode

30 avenue de la Paix - 92170 VANVES - FRANCE - [www.neyco.fr](http://www.neyco.fr)  
Tel : 33(0)1.41.90.50.50 / Fax : 33(0)1.41.90.50.51



Dimensions & physical data	
Optix sensor	300 mm x 170 mm x 96 mm
PSU	165 mm x 105 mm x 55 mm
Sensor weight	2.2 kg
Standard vacuum connection	KF25 flange
Mounting orientation	Any
Cathode and anode material	Stainless Steel (serviceable & replaceable)

Electrical	
Input voltage	24 V
Input power	20 W typical
Output voltage	3 kV max
Output current	1.5 mA max

Operating Data	
Total pressure operating range	$1 \times 10^{-6}$ mbar up to 0.5 mbar
Sensitivity	50 ppm air in argon at $1.6 \times 10^{-2}$ mbar total pressure
Spectral range	200 nm - 900 nm
Update speed	5 ms to 10 s (depending on sensitivity selected)

Communication Interfaces	
OPC	
RS232	
Ethernet	
Digital relay output (x4)	

Software	
Windows 7, 8 and 10 compatible	

