

NITROGEN ANALYZER BY CHEMILUMINESCENCE "LUMAZOTE"



Standards:

- **ASTM D 4629**
- **ASTM D 7184**
- **ASTM D 5176**
- **ASTM D 5762**
- **NF M-07-058**

 **Eraly**
& Associés
The Elemental Analysis

TOTAL NITROGEN ANALYSIS:

With a new generation of detectors offering a 20% gain in sensitivity, the LUMAZOTE is a nitrogen analyzer by Chemiluminescence, for solid, liquid and gaseous samples.

This instrument is used primarily to measure quickly and accurately Total Nitrogen in petroleum products, oils, solvents, plastics, synthetic products, LPG, water, gas, etc... Reliable and robust, the LUMAZOTE only requires minimal maintenance.

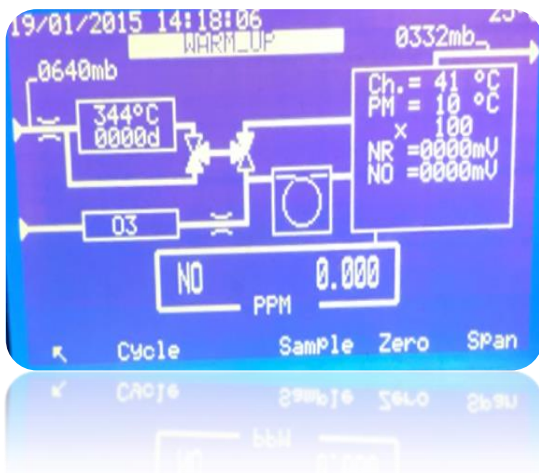
THE HIGHLY SENSITIVE DETECTOR:

- ✓ the use of an optical filter separating the reaction chamber and the detector to eliminate interferences due to hydrocarbons,
- ✓ the improvement of the luminous efficiency by the optimization of the pressure inside the chamber,
- ✓ filtering and drying of the combustion gases upstream from the reaction chamber,

Are factors that increase the sensitivity of the detector. This makes it possible to measure the very low nitrogen contents up to 30 ppb as well as the high contents up to 10% of nitrogen.

LCD DISPLAY:

Located in front of the unit, the Interactive and Multi-tasking LCD display has a drop down menu with a fast display in 4 languages.



This LCD screen allows to display in real time:

THE MIPO5 SOFTWARE:

Our MIPO5 software is intuitive and has help (instruction) messages. It ensures the safety of the user and the equipment. With alarms it prevents starting an analysis until all the conditions are met. It is equipped with an hourly / daily programmable timer to automatically switch to standby or start the machine, ovens, gas..... MIPO5 allows you to express your results directly in ppm or μg / l or in%.

The results files are exportable in PDF, or Excel..... they are also transferable to other types of media.

Switch from liquid to solid mode with one click.

- Real-time synoptic flow diagram display; The intensity of the PM signal,
- The pressure of the measuring chamber; the internal temperature,
- The input sample pressure; the state of the measuring chamber,
- Alarms regarding all possible issues.

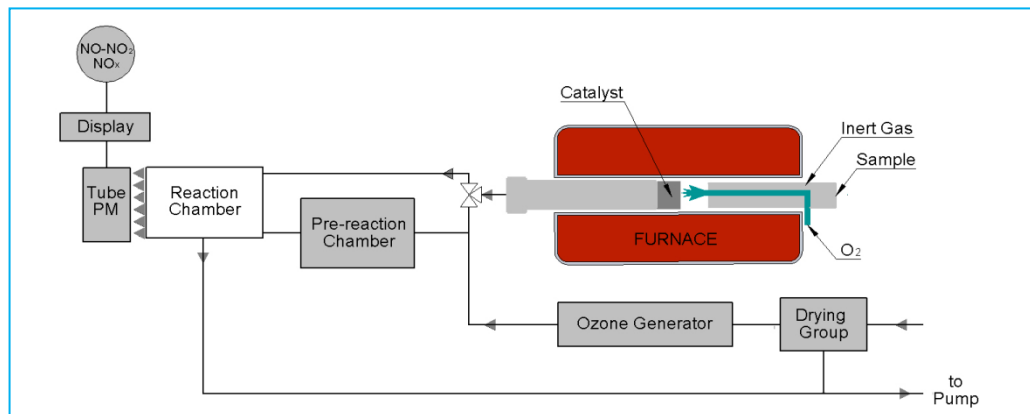
PRINCIPLE OF OPERATION:

Luminescence is the characteristic of many substances to emit light under the effect of an excitation. This phenomenon, produced with good energy efficiency, takes the name of **chemiluminescence** when it is caused by a chemical reaction.

In our case, the principle consists in detecting the photons emitted during the reaction of the nitrogen-oxide NO with ozone O₃.



This light energy of determined wavelength is filtered and measured by a photomultiplier tube.



DESIGN THAT ADAPTS TO YOUR SPACE:

With its two modes of configuration, Vertical furnace and Horizontal Furnace, the LUMAZOTE is adaptable to your environment.



| | | | |
|---------------------------------|---|----------------------------|--------------|
| Principle | Combustion - Chemiluminescence | | |
| Detection Limit | 20 ppb to 10% | | |
| Quantification | 30 ppb to 10%. | | |
| Accuracy | At 0.3 ppm | At 1 ppm | At 100 ppm |
| RSD | 0.97 % | 0.78 % | 1.10 %. |
| Injections | 20 to 80 µl liquids | 1 to 25 ml gas | 10µL LPG |
| Supply: Gas | Oxygen 99.998% - 3 bar | Argon 99.995 % - 3 bar. | |
| Electric | 110 V / 230 V 60Hz – 50 Hz 1200 W | | |
| Temperature | Furnace F2 25 to 1050°C / Furnace F1 programmable 25 to 980 °C. | | |
| DIMENSIONS | Length | Height | Depth |
| VERTICAL CONFIGURATION | 46 cm | 65 cm | 56 cm |
| HORIZONTAL CONFIGURATION | 84 cm | 48 cm | 55 cm |