New Product Releases

Zysense is happy to announce several new product lines that will be launched in 2018.

- Zysense MGA 400
  - Electrochemical Multigas Analyzer to measure Nitric Oxide, Carbon Monoxide, Hydrogen Sulfide the three cell signaling molecules in parts per million levels
- NO_x Plus Sp Met
  - This electrochemical unit measures nitric oxide, nitrogen dioxide, oxygen and pulse oximetry.
- NO_2 to NO Converter
  - This unit utilizes thermal reduction technology to convert Nitrogen Dioxide to Nitric Oxide to ensure ultra low level of NO2 (less than 2 ppm) in NO gas stream
- Cell NO
  - This is a sterile cell culture system custom designed to grow cell cultures for the continuous real time measurement of nitric oxide. This cell is designed to eliminate foaming of samples especially samples containing high amount of proteins.
- Stabilizer Serum
  - Stabilizes and extends the shelf life of blood samples to accurately measure nitrite and S-nitrosothiols over longer periods of time

About Us

Zysense NOA 280i (formerly Sievers) is the global leader in Nitric oxide measurement. With a focus on precision and versatility, NOA 280i allows for reliable, reproducible measurement of Nitric oxide in blood, plasma, gases, cell cultures, and countless other media.

Our liquid, inhaled, exhaled, & nasal applications have been key assets for a broad range of research publications (pulmonary, auto-immune, oncological, neonatal, etc.) from over 1,000 leading hospitals and research institutions around the world.

NOA 280i is also utilized in environmental trace gas measurement. In agricultural applications it is used to delay the ripening of fruits, and fumigate produce post-harvest.

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NOA 280i Overview & New Products

NOA 280i Overview

NOA 280i has wide-ranging application in liquid testing and gas sampling, including on-line, off-line (bag sampling), nasal, breath-by-breath (ventilator) and chamber sampling. Most competing instruments measure only liquid or gas. Especially in liquid testing for NO, we believe research institutions favor NOA 280i over competing technologies due to its higher technical sensitivity, broad detection range and faster response time.

Zysense offers the most sensitive and accurate detection system for the analysis of nitric oxide (NO) and its reaction products (nitrate, nitrite and nitrosothiols) in virtually any biological fluid; plasma, sera, cell media, tissue homogenate, perfusate or other liquid sample. Concentrations ranging from low nanomolar to millimolar are measured in sample volumes from a few microliters to several milliliters.

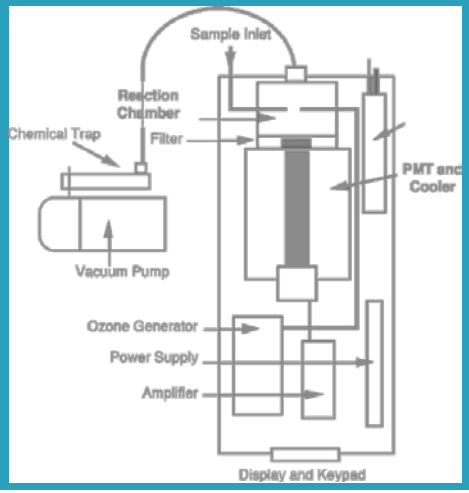
NOA 280i fast response time and low sample flow rates allow for measurement of exhaled NO in humans and animals of all ages and sizes. Exhaled NO can be captured in on-line, off-line, nasal, breath-by-breath and chamber sampling techniques. NOA 280i and its accessories enable measurements for research applications and exhalations that comply with recommendations established by the American Thoracic Society.

Theory of Operation

NOA 280i's underlying technology was developed in the 1980s by Sievers Instruments. Its technology is based on a chemical phenomenon known as chemiluminescence, which is the emission of light and/or heat as a result of a chemical reaction. This reaction takes place when a catalyst substance is introduced to a reactive substance, thereby causing the reactive substance to fluoresce, or emit light and/or heat as it decays to a lower energy level. In NOA 280i, ozone is combined with the NO from the sample. Mixing the two substances causes a chemiluminescent reaction which yields chemically-excited nitrogen dioxide and oxygen.

Sample + ozone	chemical reaction	Nitrogen dioxide + oxygen
$NO + O_3$	→	$NO_2 + O_2$
Nitrogen dioxide		Nitrogen dioxide + light
NO_2	→	$NO^2 + h\nu$

The chemically excited NO_2 emits light, which is measured by a thermally cooled, red-sensitive photomultiplier tube. The amount of light is proportional to the concentration of NO. This is the NO reading produced by NOA 280i.



Features

- **Versatility to identify NO presence in gas AND/OR liquids.**
- **Precision to measure NO concentration from low nanomolar to millimolar levels**.
- **Scalability to sample volumes ranging from microliters to milliliters**: Liquid purge vessels come in small (25 mL) and large (50 mL) sizes to accommodate several sample volumes.
- **Fast response time**
- **Customized calibration**: End users can precisely calibrate NOA 280i to their intended purpose (liquid, gas, or a rotation of sampling methods)
- **User-friendly operation**: Easy-to-use, menu-based firmware allows users to create, store and easily access method parameters for quick start-up.
- **Low total cost of ownership**: Consumables are inexpensive and require replacement roughly every six months (900 hours of operation). Installed firmware tracks operating time and alerts the user when to perform routine maintenance.
- **Compact size**: Approximately the size of a desktop computer. Vacuum pump accessory can be conveniently located either under the bench or on a cart with the analyzer.
- **Custom software**: Custom-designed data collection and analysis software, *NOAnalysis*, contains four different programs: one for liquid and three for gas.
- **Full-range of service support**: We offer a full range of factory and on-site services, including start-up, preventive maintenance and extended warranty.