

# Nitric oxide

## Where is it found?

Nitrogen oxide is emitted from automotive engines and the burning of coal, oil, diesel fuel, and natural gas, specially from electric power plants. It is also emitted by cigarettes, gas stoves, wood burning, and silos that contain silage.

## Why is it harmful?

Nitric oxide (NO), also called nitrogen oxide, is a colorless toxic gas originated by the oxidation of nitrogen. It contributes to climate change and its inhalation affects human health. When it reacts with sunlight and other chemicals, such as sulphur dioxide (SO<sub>2</sub>), it forms smog and acid rain. The inhalation of high levels of nitric oxide can cause respiratory problems, particularly in vulnerable groups, such as asthmatics, and it affects to cardiovascular and immune systems.

## NO cartridge

K-NO-A-01

The Nitric Oxide Cartridge has a built-in electrochemical sensor ideal to measure from very low ppb concentrations up to several ppm than can be found in the atmosphere close to pollution sources (vehicles, industries...). This cartridge is very accurate and stable with very good temperature correction algorithm and can work beyond two years easily under no extreme environments. The cartridge can suffer from a small zero drift (some ppbs) over time that can be easily corrected with the remote Kunak Calibration Tool available on Kunak Cloud Software.



## Technical specifications

Type	Electrochemical	Limit of Detection (LOD) <sup>(7)</sup>	2 ppb
Unit of measurement	µg/m <sup>3</sup> , ppb	Repeatability <sup>(8)</sup>	4 ppb
Measurement range <sup>(1)</sup>	0 - 5,000 ppb	Response time <sup>(9)</sup>	< 30 sec
Resolution <sup>(2)</sup>	1 ppb	Typical accuracy (MAE) <sup>(10)</sup>	± 4 ppb
Operating temperature range <sup>(3)</sup>	-30 to 40 °C	Typical precision R <sup>2</sup> <sup>(10)</sup>	> 0.9
Operating RH range <sup>(4)</sup>	0 to 99 %RH	Typical slope <sup>(10)</sup>	0.9 - 1.12
Recommended RH range <sup>(4)</sup>	15 to 85 %RH	Typical intercept (a) <sup>(10)</sup>	-2 ppb ≤ a ≤ +2 ppb
Operating life <sup>(5)</sup>	> 24 months	DQO - Typical U(exp) <sup>(11)</sup>	< 20%
Guarantee range <sup>(6)</sup>	20 ppm	Typical Intra-model variability <sup>(12)</sup>	< 1 ppb

\* See notes on page 28