

Professional

# NO . NO<sub>2</sub> . NOx Monitors



ET specialises in real-time ambient NO<sub>2</sub> and NO<sub>x</sub> monitoring and offers the widest range of professional cutting-edge and “reference method” measurement technology for these crucially important urban pollutants.

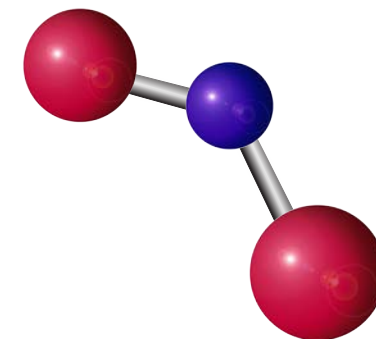
Nitrogen dioxide (NO<sub>2</sub>) irritates the airways of the lungs, increasing the symptoms of those suffering from lung diseases. Highly linked with particle concentrations in air samples from city roads, recent estimates would suggest 40,000 annual deaths in the UK are attributable to NO<sub>2</sub> and particulate pollution.

These pollutants are principally the products of combustion from space heating, power generation and from motor vehicle traffic. Pollutants from these sources may not only prove a problem in the immediate vicinity of these sources but can travel long distances.

**Tomorrow’s technology today – “true” direct NO<sub>2</sub> monitoring.**

In addition to our immensely popular T200 chemiluminescent NO<sub>x</sub> monitor (which measures NO and NO<sub>x</sub> and calculates NO<sub>2</sub>), here we are showcasing some of our next-generation instruments that either use photolytic converters to calculate NO<sub>2</sub> more specifically or move away from chemiluminescence entirely and measure NO<sub>2</sub> directly, such as our T500U CAPS NO<sub>2</sub> analyser, the UK’s first non-chemiluminescent MCERTS approved direct NO<sub>2</sub> monitor.

# Professional NO . NO<sub>2</sub> . NO<sub>x</sub> Monitors



**T200 Chemiluminescence NO/NO<sub>2</sub>/NO<sub>x</sub> Analyser**

The Model T200 NO/NO<sub>2</sub>/NO<sub>x</sub> analyser uses the proven chemiluminescence detection principle, coupled with state-of-the-art electronics to allow accurate and dependable low level measurements of NO<sub>x</sub> for use as an ambient analyser or dilution CEMS monitor.



**T200U Ultra Sensitive Chemiluminescence NO/NO<sub>2</sub>/NO<sub>x</sub> Analyser**

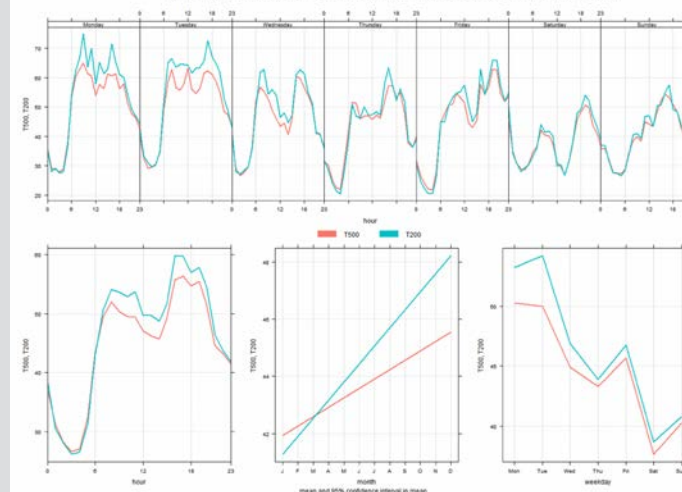
The Model T200U Ultra-Sensitive NO/NO<sub>2</sub>/NO<sub>x</sub> analyser has been developed specifically to address the challenges of low level monitoring as required, for example, in the US NCore network. It uses the proven chemiluminescence principle and is designed to allow ultra-sensitive measurements with a lower detectable limit of 50 ppt.



Several US and European studies have now demonstrated beyond doubt that chemiluminescent NO<sub>x</sub> analysers with traditional molybdenum catalytic converters, can overestimate concentrations of NO<sub>2</sub> in ambient air.

The degree of overestimation can vary depending on site location and local environment. The graph opposite shows the comparison between NO<sub>2</sub> concentrations calculated by a traditional chemiluminescent NO<sub>x</sub> analyser (T200) and those measured directly by a T500U CAPS NO<sub>2</sub> analyser, both co-located at a monitoring station in central London. It is evident that NO<sub>2</sub> concentrations are reported as higher with the T200 instrument than by the T500U.

Marylebone Road, London, Dec 14. T500 CAPS – v – T200 Chemi. NO<sub>2</sub> data (preliminary, scaled but not ratified, data in ppb).



Credit: D. Green, A. Beckett, ERG Kings College London, 2015



### T200P Photolytic NO/NO<sub>2</sub>/NO<sub>x</sub> Analyser **NEW**

The Model T200P provides measurements of NO, NO<sub>x</sub> and NO<sub>2</sub> using our T200 analyser combined with a patented high efficiency Blue Light Converter (BLC).

The BLC, also known as photolytic converter, provides a very specific conversion of NO<sub>2</sub> with conversion efficiency similar to molybdenum.\*



### T200UP Ultra Sensitive Chemiluminescence Analyser NO/NO<sub>2</sub>/NO<sub>x</sub> Analyser

The Model T200UP provides Trace Level measurements of NO and NO<sub>2</sub> using our Model T200U NO<sub>x</sub> analyser combined with a patented photolytic converter. Even low temperature molybdenum converters transform other nitrogen-containing compounds such as HNO<sub>3</sub>, PAN, etc. to a considerable extent.



### T500U CAPS Nitrogen Dioxide Analyser

The T500U CAPS NO<sub>2</sub> Analyser represents the next generation of criteria pollutant monitoring technology for the direct measurement of Nitrogen Dioxide (NO<sub>2</sub>) in air. The instrument utilizes a patented\* Cavity Attenuated Phase Shift (CAPS) technique to provide an extremely sensitive, fast and accurate NO<sub>2</sub> measurement in a cost effective and low maintenance instrument package.

# Features and Benefits

	T200	T200U Trace Level	T200P Photolytic	T200UP Photolytic Trace Level	T500U CAPS NO <sub>2</sub>
2 Year Warranty	✓	✓	✓	✓	✓
Full Colour Touchscreen Display	✓	✓	✓	✓	✓
Numaview Software	✓	✓	✓	✓	✓
Long-Life Sample Filter (6-12 months Life)	OPTION	OPTION	OPTION	OPTION	STANDARD
Internal Zero Span System for Automatic Calibration Checking	OPTION	OPTION	OPTION	OPTION	OPTION
Ethernet, Serial, USB and Analog Outputs	✓	✓	✓	✓	✓
Large Capacity Internal Data Storage	✓	✓	✓	✓	✓
Direct 'True' NO <sub>2</sub> Measurements	✗	✗	✗	✗	✓
Enhanced NO <sub>2</sub> Measurements	N/A	N/A	✓	✓	✓
Very Low Power Consumption < 100 Watts	✗	✗	✗	✗	✓



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