

ECO PHYSICS CON 765 NO_y

Application examples

Ambient Air Quality Control
Atmospheric Research
Tropospheric Research
Continuous Trace Gas Analysis

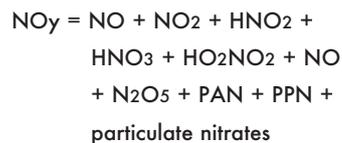


The CON 765 NO_y converter, when coupled with a highly sensitive chemiluminescence NO analyzer (CLD), allows for the measurement of the total reactive nitrogen oxides (NO_y) in the range of parts per trillion and low parts per billion!



What's NO_y.

NO_y is the sum of the reactive odd-nitrogen species:



The role of oxides of nitrogen.

The oxides of nitrogen play an important role in atmospheric chemistry. In the troposphere nitric oxide (NO) and nitrogen dioxide (NO₂) first function as catalysts in photochemical reaction cycles that either produce or destroy ozone (O₃), second they are precursors of nitric acid (HNO₃), which is an important constituent of acid precipitation. Compounds such as peroxyacetyl nitrate (PAN) are an important source of NO_x (NO + NO₂) in areas far removed from anthropogenic sources.

In the lower stratosphere NO_y and ClONO₂ are principal reactive nitrogen species involved in ozone depletion.

Accurate measurement techniques for the above compounds are important to understand their chemistry and verify model calculations.

The measurement technique.

The CON 765 utilizes the reduction of the higher oxides of NO in reaction with CO on a metal catalyst

$$\text{NO}_y + \text{CO} \longrightarrow \text{NO} + \text{CO}_2 + \text{X}$$

and the subsequent detection of NO by a ECO PHYSICS chemiluminescence NO analyzer.

Continuous Monitoring.

The CON 765 NO_y gold converter allows for the continuous and automatic monitoring of nitrogen oxides at remote clean air areas. Many features have been integrated to assure robust, accurate and safe operation. The conversion efficiency exceeds 90% and is linear over the complete range. The presence of water vapour in the sample reduces the interference of NH₃ and HCN to a negligible level.

The ideal combination.

The CON 765 is designed to be operated together with an ECO PHYSICS NO analyzer CLD 88 p or CLD 780 TR. The CON 765 has been in use at several remote research and monitoring locations in Europe for many years.

- High conversion efficiency
- Low interferences against HCN, NH₃ and amines.
- Remotely controllable in combination with a ECO PHYSICS NO CLD.
- Compact design.



The CON 765 is in operation at high altitude research stations such as Jungfraujoch (Top of Europe) and Zugspitze.



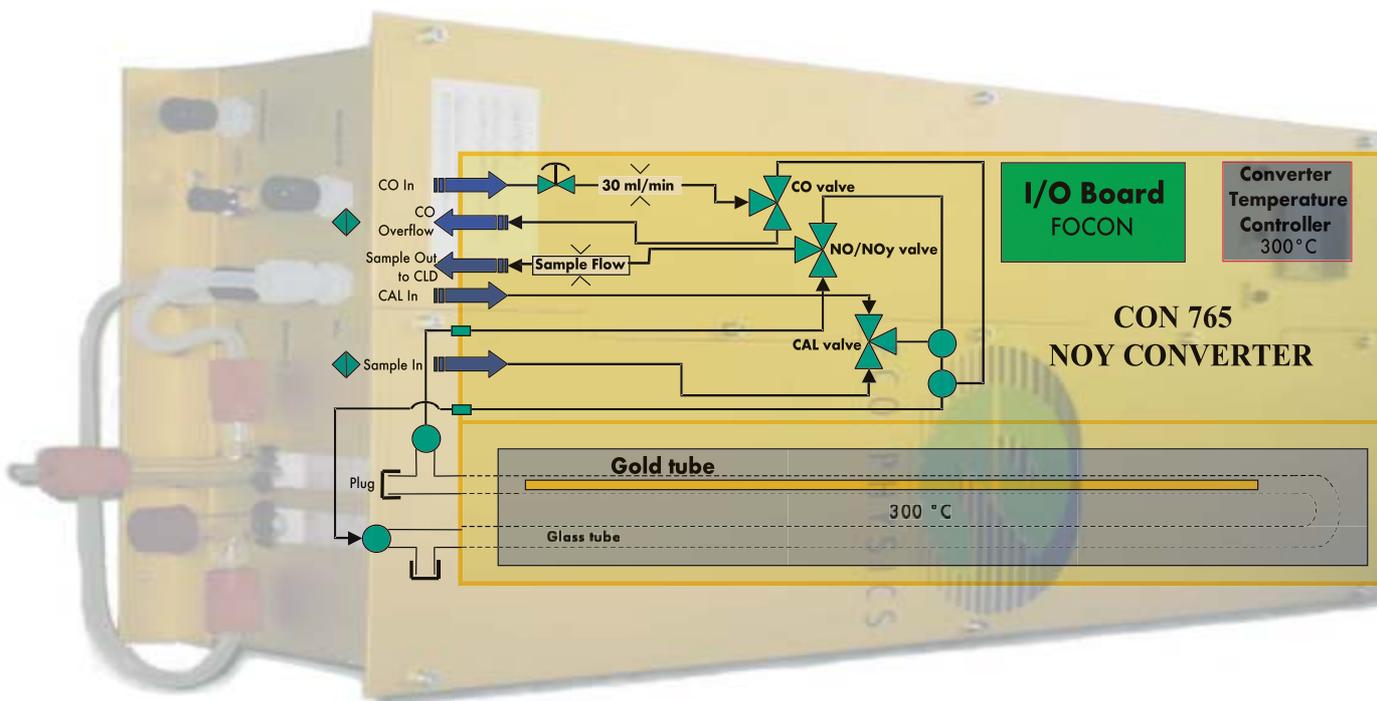
Specifications

CON 765 NOy

<i>Sample flow rate</i>	depending on CLD CLD 88 p 300 ml/min CLD 780 TR 3000 ml/min	<i>Supply Gas</i>	CO 99.999, 30 ml/min Outlet press. CO bottle: 1.5bar
<i>Converter volume</i>	24 ccm	<i>Power required</i>	320 Watt
<i>Converter temperature</i>	300 °C (regulated)	<i>Supply voltage</i>	230 V/50 Hz, 115 V/60 Hz
<i>Converter efficiency</i>	> 90%	<i>Interface</i>	digital, fits with ECO PHYSICS CLD's
<i>Converter material</i>	Gold	<i>Dimensions</i>	height: 120 mm width: 290 mm length: 650 mm
<i>Temperature range</i>	5-40 °C	<i>Weight</i>	12 kg
<i>Humidity tolerance</i>	5-95 % rel. h (non-condensing, ambient air and sample gas)	<i>Delivery includes</i>	Converter incl. Gold Tube, power cable, interface cable to CLD 88 or TR, operating manual
<i>Input pressure</i>	ambient (600-1100 mbar abs.)		
<i>Flow settings</i>	selectable sample intake: - direct into converter tube or - through valve allowing fully automatic calibration. Switching Mode: NO & NOy		

ECO PHYSICS reserves the right to change these specifications without notice.

Flow diagram



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ECO PHYSICS AG · POB 282 · CH-8635 DUERNEN · TEL. +41 55 220 22 22 · FAX +41 55 220 22 55 · E-MAIL INFO@ECOPHYSICS.COM
WWW.ECOPHYSICS.COM