

# ECO PHYSICS CraNOx II

## Application examples



Precise ambient measurements

Tropospheric research

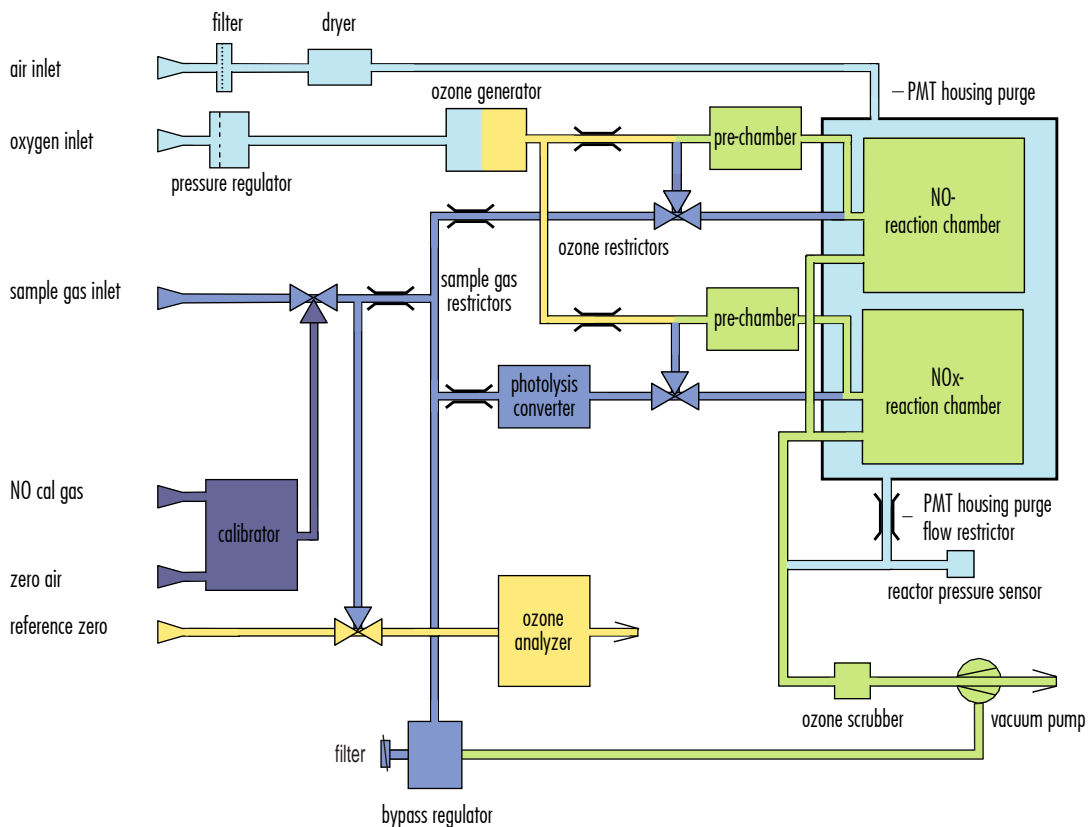
Long range transport of air masses

Background ambient monitoring stations

Flux measurements in rural areas

With CraNOx II ECO PHYSICS is launching the second generation for measurement solutions in the ppb and ppt range. The new system is smaller and more sophisticated as it calculates the photostatic equilibrium thanks to the integrated ozone analyzer. The CraNOx II system offers the simultaneous measurement of NO and NO<sub>2</sub> as well as optional NH<sub>3</sub> concentrations.

## Flow diagram



<b>NO / NOx detection by CLD:</b>		<i>Interface</i>	RS 232, LAN, keyboard, mouse and video out
<i>Measuring ranges</i>	four freely selectable ranges from 1 - 1000 ppb	<i>Display</i>	7 " color, touch screen
<i>Min. detectable concentration</i>	<0.025 ppb*	<i>Data presentation</i>	online values, graphs, tables
<i>Noise at zero point (1 σ)</i>	<0.01 ppb*	<i>Data storage</i>	> 1 year cont. operation measurement values, calibrations, states of operation
<i>Pre-chambers</i>	chemical zero compensation	<i>Export data format</i>	ASCII (tables and online values)
<b>NO2 conversion by photolytic converter:</b>		<i>Power required</i>	950 VA (incl. membrane pump and ozone scrubber)
<i>Converter volume</i>	270 ml	<i>Supply voltage</i>	100-230 V / 50-60 Hz
<i>Light source</i>	metal halide lamp (200 W)	<i>Dimensions</i>	height: 356 mm (14 ") width: 450 mm (19 ") with molding: 495 mm depth: 650 mm (25.6 ")
<i>Analysis</i>	automatic correction for photo-dissociation rate and ambient ozone concentration	<i>Weight</i>	75 kg
<b>Ozone detection by UV photometer:</b>		<i>Delivery includes</i>	CraNOx II system, power cable, operator's manual
<i>Measuring ranges O3</i>	50 to 1000 ppb	<i>Standard</i>	CraNOx II two channel, pre-chambers photolytic converter ozone analyzer calibrator
<i>Precision</i>	1 ppb	<i>Options</i>	CON 765 NOy Gold converter C NOxamines, NH3 (requires an additional CLD899)
<i>Noise</i>	± 1 ppb	<i>* depending on filter setting</i>	
<b>Calibrator:</b>		<i>ECO PHYSICS reserves the right to change these specifications without notice.</i>	
<i>Principle of operation</i>	Mass Flow Controller		
<i>Accuracy (of set point)</i>	± 1 % (flow and concentration)		
<i>Modes of operation</i>	man. or automatic zero / span range selectable converter efficiency check and compensation		
<b>General specifications:</b>			
<i>Lag time</i>	< 3 sec		
<i>Rise time (0-90%)</i>	<1 sec		
<i>Temperature range</i>	15-35 °C		
<i>Humidity tolerance</i>	5-95% rel. h (non-condensing, ambient air and sample gas)		
<i>Sample flow rate</i>	2.7 l/min		
<i>Input pressure</i>	ambient		
<i>Dry air flow rate</i>	140 ml/min		
<i>Oxygen use for O3 generator</i>	200 ml/min		

CraNOx, a combination of best available technology in a "turnkey" system to ensure automatic and trouble free operation for tropospheric NOx analysis.

## Correct analysis of NOx - CraNOx II



ECO PHYSICS

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