



Greenhouse gas analyser

Manual / on-line sampling

EV200



- Air, water and soil samples
- LOD N_2O < 20 ppb
- Manual & online sampling
- Highest uptime, robust

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EV200v2

Greenhouse gas analyser - using manual & on-line sampling

Burning of fossil fuels (like coal, oil and natural gas), agriculture and land clearing contribute to increasing levels of greenhouse gases, which affects Earth's temperature. GAS offers the greenhouse gas analyser for measuring ppb/ppm to % levels of CO₂, CH₄, N₂O and SF₆.

Principle of operation

The greenhouse gas analyser comprises two analytical channels. The first channel measures CH₄ (methane) and CO₂ (carbon dioxide) using a 10-port injection/backflush valve, a methaniser, and a Flame Ionisation Detector (FID). The methaniser converts CO₂ to methane, enabling sub-ppm detection by the FID. Optionally, a Thermal Conductivity Detector (TCD) can be installed in series for measuring high CO₂ concentrations. The second channel detects N₂O using an Electron Capture Detector (ECD) after separation from air and CO₂, with water backflushed to vent. SF₆ can also be analysed on this channel, achieving sub-ppt detection limits. Both channels support (1) manual loop filling and (2) online analysis via a sample pump for continuous monitoring (figure 1).

Specification

- Thermo Trace GC1600 with two 10-port diaphragm gas switching valves, micropacked columns (Hayesep), ECD, Methaniser/FID.
- Optional: TCD
- Minimum detectability:
 - CH₄: < 50 ppb
 - CO₂: < 100 ppb
 - N₂O: < 20 ppb using Ar/CH₄ as ECD make-up gas;
< 100 ppb using N₂ as ECD make-up gas
 - SF₆: sub-ppt range
- Repeatability: < 1% RSD (n=10)
- Runtime: 5 minutes

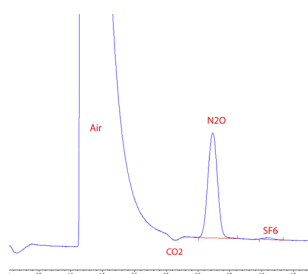


Figure 2 Chromatogram ECD

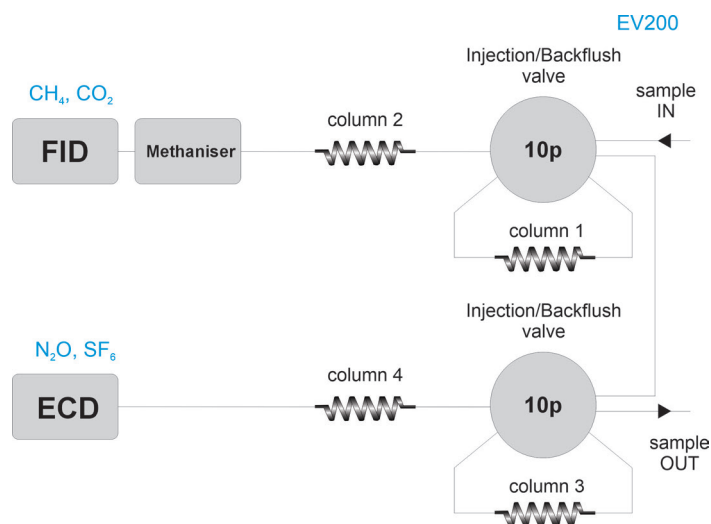


Figure 1 Diagram greenhouse gas analyser

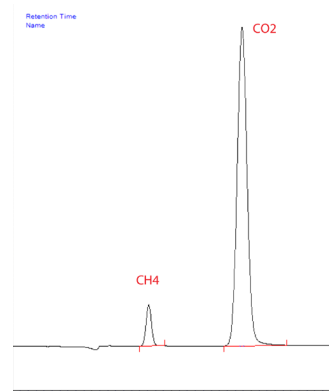


Figure 3 Chromatogram FID/methaniser

Ordering information EV20X - ABCDE

code X	0	1	2	3
GC model, power	1600, 230V	1610, 230V	1600, 115V	1610, 115V

For selecting options ABCDE (e.g. valve type and passivation, pump and vacuum sampling, rotameter and sample connections, pressure and moisture sensors, hydrogen sensor for safety shut-off, power plug type and more), [see the options table in the order guide](#).

About GAS

Global Analyser Solutions provides GC & GC-MS solutions for Energy, Refinery, Chemical and Environmental markets. Our analysers address a broad spectrum of measuring requirements with high precision and reliability. Please reach out for more information on our website.

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