



NEBULA
Gas
Instrumentation

COmbi₂

Data sheet

The **COmbi₂** is the analysis system of choice for gas, oil, wood, solid fuel and domestic gas boilers. The system offers flexible measurement ranges of Carbon Monoxide (CO) and Carbon Dioxide (CO₂) in order to be adaptable to regulation changes.

In addition to the gas measurements the **COmbi₂** also offers gas conditioning in one compact enclosure.



Features

- Multi range gas sensing CO/CO₂
- Sample conditioning including:
 - Peltier Coolers
 - Permeation Dryers
 - Membrane Filters
 - Moisture Sensors
- 4-20mA & RS232 port
- Relays
- Optional sensing for: Methane (CH₄), Oxygen (O₂) and Nitric Oxide (NO)

Criteria	General Specification
Pump Flow Rate	Typically 0.2 to 1.2 litres per minute
Flow Meter	Electric or manual with control
Electrical Connections	Round 8 pin DIN for analogues, RS232 data port, relay alarm contacts
Gas Connections	M6 compression fittings or user specified
Operating Conditions	5-40°C ambient, 0-95% RH
Gas Conditioning	0-50°C non-condensing at analyser
Power Requirements	Nominal 90-240VAC. 50/60Hz max 120VA
Dimensions	Analyser Only: H133mm x W483mm x D500mm - 3U Complete with conditioning: high 1360mm (h) x 600mm (w) x 800mm (d) - 27U
Weight	Analyser Only: 12-15kg dependant upon configuration Complete with conditioning: Approx 70kg

Criteria	Gas Filter Correlation (GC)	Single Beam (SB)	Oxygen Paramagnetic (PM)	Oxygen Chemical Cell (ECC)
Gases Measured	CO ₂ , CO, CH ₄ , NO	CO ₂ , CO, CH ₄	O ₂	O ₂ +
Technology	NDIR gas filled wheel	NDIR single wavelength absorptiometer	Paramagnetic cell	Chemical cell
Ranges	From ppm to 100% for gases	From ppm to 100% for gases	From 1-100% for oxygen	From ppm to 10% for gases
Resolution	0.1% of scale	0.5% of scale	0.1% of scale	0.1% of scale
Detection Limit	0.1% of scale	0.5% of scale	0.01% O ₂	1% of scale
Accuracy	1% of reading	1% of scale	0.1% O ₂	1% of scale
Noise	<0.1% of scale	<0.5% of scale	<0.1% O ₂	0.1% of scale
Zero Stability	1% per week	1% per 24 hours	Absolute Zero	Absolute Zero
Span Stability	0.5% per week	1% per week	0.1% per week	0.5% per week
Temperature Effect on Zero	± 0.1% per °C	± 0.25% per °C	± 0.1% per °C	± 0.1% per °C
Temperature Effect on Span	± 0.2% per °C	± 0.25% per °C	± 0.1% per °C	± 0.1% per °C
Response Time - Dependent on gas cell length	T90 of 4 seconds	T90 of 4 seconds	T90 of 4 seconds	T90 of 20 seconds

Sample Conditioning
<ul style="list-style-type: none"> • Peltier coolers • Compressor coolers • Permiation dryers • Particulate filters • Membrane filters • Moisture sensors • Custom configurations

Gas	Minimum Detection
CO ₂ CO	0.1ppm Dependant upon technology used
CH ₄ NO ₂ O ₂	1.0ppm

Authorised Distributors & Service Centre
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