



# Rapidox 5100 Syngas Analyser

The Rapidox 5100 Syngas Analyser is a high specification and mobile instrument designed for the on-site analysis and calculation of calorific value for syngas produced from the gasification of waste material at high temperature in an environment low in oxygen.



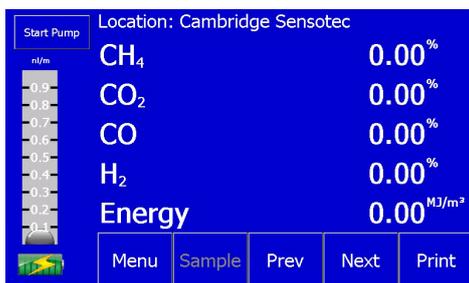
The Rapidox 5100 Syngas Analyser can be used for the analysis of syngas at appropriate installations (after appropriate sample conditioning / clean up) from the pipework leading to a CHP engine for either:

- biomass fuels - such as wood chips and digestate - via gasification or
- non-biomass fuels - such as tyre crumbs, plastics, metal coated plastics and foams - via cracking.

A print-out of results for both gas content ( $H_2$ ,  $CO$ ,  $CH_4$ ,  $CO_2$  and  $O_2$ ) and energy content (calorific value, CV) for the syngas can be produced; another advantage is that the Rapidox 5100 Syngas Analyser can be moved between gasifiers on one site or from site to site and used as required. All data is continuously logged for review and inspection and Excel compatible data can be downloaded via a USB memory stick.

The pump enables two modes of operation:

- for gas samples at atmospheric pressure or below, the pump is activated to draw a sample through the analyser.
- from gas samples at greater than atmospheric pressure, the pump can be deactivated to allow gas to flow through the analyser; gas flow is regulated manually via a rotary knob on the fascia and displayed electronically on the screen.



The Rapidox 5100 Syngas analyser is a mobile field instrument yet still maintains full laboratory functionality - with no compromises being made because of its portability - and incorporates the following features:

- a full battery life greater than 8 hours on a full charge (6 hours),
- a heavy-duty IP66 case for extra protection,
- a weight of only 7kg, making it easier to move around when out in the field,
- a thermal printer to provide a copy of results instantly.



Please contact Cambridge Sensotec for further information or to discuss your requirements.

## Gasifier Connection Kit

The Gasifier Connection Kit comprises a male rectus fitting for use with gas digester pipework entry, sampling hose (2m braided steel) with self-sealing fittings, in-line stainless steel membrane housing to remove all water from gas, stainless steel drain port and blanking plug housing, fittings to enable braided cable to attach to membrane housing and to enable connection of end tubing to the analyser, in-line particulate and coalescing filter with 1/4" nipple fittings, 4m FEP tubing, 20m reel of polyurethane tubing to take exhaust gas from analyser to the outside.

All accessories in the above are available separately, if required.

Specification	
H2 (hydrogen)	0-100% TCD sensor with background gas correction. $\pm 1\%$ full scale accuracy. 0.1% resolution
CO (carbon dioxide)	0-2000ppm, 0-2%, 0-10% or 0-100% Infra-red sensor. $\pm 1\%$ full scale accuracy. 0.1% resolution
CH4 (methane)	0-5% (LEL) or 0-100% Infra-red sensor. $\pm 1\%$ full scale accuracy. 0.1% resolution
CO2 (carbon monoxide)	0-5000ppm, 0-5%, 0-20% or 0-100% Infra-red sensor. $\pm 1\%$ full scale accuracy. 0.1% resolution
O2 (oxygen)	0-30% or 0-100% electrochemical sensor. $\pm 1\%$ full scale accuracy. 0.01% resolution
Ambient Operating Temperature	-10°C to 40°C
Warm-up Time	3-4 minutes at 20°C
Measurement Time	Approximately 2-4 minutes (dependant on sensor configuration)
Battery Life	More than 8 hours (up to 500 cycles). 4-6 hour charge
Voltage (Charging)	90-260VAC, 50/60Hz
Sample Connections	4mm ID/6mm OD Rectus style, closed coupled fittings
Data Output	Excel compatible data via USB memory stick
Data Storage	4GB internal data storage allowing for approximately 1 year of continuous monitoring
Pump	0-1 litres per minute
Calibration	Zero and span calibration with two user selectable gas compositions
Display	7" (180mm) full-colour LCD with touchscreen operation
Printer	Thermal printer allows output of results on demand
Analyser Dimensions	180mm(H) x 480mm(W) x 360mm(D)
Weight	7kg