

# BIOGAS 5000



PORTABLE GAS ANALYSER | ANAEROBIC DIGESTION

Easy to use, calibrate and configure and enables consistent collection of data for improved analysis and accurate reporting, whilst helping to check the digester process is running efficiently.



## SECTOR



## APPLICATIONS

- Farm digester gas monitoring
- Food processing biogas monitoring
- Waste water biogas monitoring
- Methane recovery

## FEATURES

- Certified: ATEX, IECEx, CSA, MCERTS and UKAS calibration (ISO17025)
- Robust design for market leading reliability
- CH<sub>4</sub> and CO<sub>2</sub> accuracy ± 0.5% after calibration
- Choice of user settings and simple gas reading function
- Measures % CH<sub>4</sub>, CO<sub>2</sub> and O<sub>2</sub>
- Modular and upgradeable
- 3 year warranty
- Stores and downloads readings
- User selected languages
- Event log
- Datalogging and profiling function
- Up to 6 gases monitored

## BENEFITS

- Enables consistent collection of data for improved analysis and accurate reporting
- No need for self-certification of anemometer
- Easy to use and calibrate
- User configurable operation
- Helps check digester process is running efficiently

## OPTIONS (AVAILABLE AT PURCHASE OR LATER)

- H<sub>2</sub>S to 0-5,000ppm or 0-10,000ppm
- Additional gases including H<sub>2</sub> and NH<sub>3</sub>
- Gas Analyser Manager software for data download
- External flow devices: anemometer (ATEX) / Pitot tubes
- ATEX certified temperature probe

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POWER SUPPLY				
Battery type	Rechargeable nickel metal hydride battery pack (not user replaceable)			
Battery life	Typical use 8 hours from fully charged			
Battery charger	Separate intelligent battery charger powered from mains supply (100 - 240V)			
Charge time	Approximately 4 hours from complete discharge			
GAS RANGES				
Gases measured	CH <sub>4</sub> and CO <sub>2</sub>	By dual wavelength infrared sensor with reference channel		
	O <sub>2</sub>	By internal electrochemical cell		
	H <sub>2</sub> S/H <sub>2</sub> /CO/NH <sub>3</sub>	By internal electrochemical cell		
Standard gas cells	Cell	Range	Typical accuracy (range : accuracy)	Typical accuracy (range : accuracy)
	CH <sub>4</sub>	0-100%	0-70% : ±0.5% (vol)	70-100% : ±1.5% (vol)
	CO <sub>2</sub>	0-100%	0-60% : ±0.5% (vol)	60-100% : ±1.5% (vol)
	O <sub>2</sub>	0-25%	0-25% : ±1.0% (vol)	
Optional gas cells	Cell	Range	Typical accuracy	
	H <sub>2</sub> S	0-50ppm	±1.5% FS	
	H <sub>2</sub> S	0-200ppm	±2.0% FS	
	H <sub>2</sub> S	0-500ppm	±2.0% FS	
	H <sub>2</sub> S	0-1,000ppm	±2.0% FS	
	H <sub>2</sub> S	0-5,000ppm	±2.0% FS	
	H <sub>2</sub> S	0-10,000ppm	±5.0% FS	
	CO	0-500ppm	±2.0% FS	
	CO	0-1,000ppm	±2.0% FS	
	CO	0-2,000ppm	±2.0% FS	
	CO (H <sub>2</sub> )*	0-2,000ppm	±1.0% FS	
	NH <sub>3</sub>	0-1,000ppm	±10.0% FS	
	H <sub>2</sub>	0-1,000ppm	±2.5% FS	
Typical accuracies	All typical accuracies quoted are after calibration			
*Hydrogen compensated carbon monoxide measurement	Hydrogen cross gas effect on carbon monoxide approximately 1%. Do not use where hydrogen is in excess of 10,000 ppm.			
Response time, T90	CH <sub>4</sub>	≤10 seconds		
	CO <sub>2</sub>	≤10 seconds		
	O <sub>2</sub>	≤20 seconds		
	H <sub>2</sub> S	≤30 seconds		
	CO	≤30 seconds		
	NH <sub>3</sub>	≤90 seconds		
	H <sub>2</sub>	<90 seconds		
PUMP				
Flow	550 ml/min typically			
Flow fail point	-200 mbar vacuum - user settable			
Maximum vacuum restart	-250 mbar approximately with flow rate of approx 250ml/min			

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## TECHNICAL SPECIFICATIONS *CONTINUED*

FACILITIES	
Temperature measurement	-10°C to +75°C with optional probe
Temperature accuracy	±0.5°C with optional probe
Flow measurement	Via Pitot tube, orifice plate, or anemometer
Alarm	User selectable alarms
Communications	Via USB lead or wireless Bluetooth**
Relative pressure measurement	±250 mbar
Relative pressure accuracy	±4 mbar typically (should be zeroed before reading) to ±15 mbar max
Barometric pressure measurement	500 to 1500 mbar, ±5 mbar accuracy
Available memory	10 IDs**, 500 readings
ENVIRONMENTAL CONDITIONS	
Operating temperature range	-10°C to +50°C
Atmospheric pressure range	700 to 1200 mbar
Relative humidity	0-95% non condensing
Case seal	IP65
PHYSICAL	
Weight	1.6kg
Size	L 220mm, W 155mm, D 60mm
Case material	ABS / polypropylene with rubber over-moulding
Keys	Alpha-numeric keypad with 'tactile' membrane
Display	Ultra-clear high resolution 4.3" full colour TFT
Connections	Colour coded gas inlet, outlet and pressure ports. Waterproof USB port, anemometer and charger / temperature probe connections.
Gas sample filters	External user changeable 2.0µm ptfe water traps
CERTIFICATION RATING	
ATEX MARKING	 II 2G Ex ib IIA T1 Gb (Ta = -10°C to +50°C)
MCERTS	MC/130240
ISO17025	Calibration to UKAS certificate number 4533
CSA	Ex ib IIA T1 (Ta = -10°C to +50°C) (Canada), AEx ib IIA T1 (Ta = -10°C to +50°C) (USA)
**Gas Analyser Manager software required.	
Important note: The information in this document is correct at the time of generation. We do however, reserve the right to change the specification without prior notice as a result of continuing development.	



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