BIOGAS3000

Geotech

FIXED BIOGAS AND LANDFILL GAS ANALYSER | ANAEROBIC DIGESTION

The ATEX and IECEx certified BIOGAS 3000 builds on field proven, robust gas analysis technology to offer cost effective online monitoring with local data outputs.



SECTOR

⟨𝔅⟩ BiogasSee Landfill gas

APPLICATIONS

- Agricultural waste
- Biogas upgrading
- Landfill gas monitoring
- Farm waste AD (small scale)
- Gas flaring
- Mixed food waste AD
- Sewage/waste water treatment AD



FEATURES

- CH₄ CO₂ & O₂- standard measurements
- H_2S , H_2 and CO- choice of up to two optional measurements
- Modular design enabling hot-swap for serviceability and onsite maintenance
- User calibration function to maintain accuracy & ensure data reliability in extreme temperatures
- ATEX and IECEx certified for use in potentially explosive gas atmospheres zone 2
- ISO / IEC 17025 calibration for optimal accuracy
- Ability to monitor the gas control process before and after desulphurisation
- Continuous monitoring option
- Up to 4 sample points to monitor the complete gas control process
- IP65 rated for weather proofing
- Built in liquid level monitoring with a dedicated alarm to inform the user that the contents of the catchpot requires emptying or an optional automated moisture removal drain
- Gas alarms & fault notifications
- 6 x 4-20mA outputs
- Modbus RTU communication
- Optional Profibus and Profinet communication
- Clear, visual and informative colour display
- Optional heater to extend operating temperature range to-20°C
- Extended Warranty & Service pack options through approved global service centres

BENEFITS

- Customisable to site requirements
- Zero operational downtime for servicing
- Product reliability and longevity
- Protect expensive capital equipment from damaging gases
- Maximise operational efficiency through optimising the AD process
- Operational within hazardous areas
- Ease of operation, integration and installation
- Minimal through-life costs
- Local support for peace of mind
- Multi-lingual product- available in English, German, Spanish, Polish and Chinese

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QED Environmental Systems Ltd.

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TECHNICAL SPECIFICATIONS

Number of sampling points	1-4			
Gases to be monitored	CH_4 , CO_2 and O_2 with optional H_2S , H_2 and CO (choice of up to 5)			
Reading intervals	User definable, with a continuous ¹ CH_4 , CO_2 and O_2 option available			
Operating temperature range	0°C to +50°C without heater,-20°C to +50°C with heater			
POWER				
lains options	110-230 VAC 50/60 Hz			
Consumption	155W max.			
Backup memory	Lithium manganese dioxide backup battery for memory retention			
GAS RANGES				
Gases measured	CH_4 and CO_2	By dual wavelength infrared cell with reference channel		
	0 ₂	By internal electrochemical cell		
	$H_2S/H_2/CO$	By internal / external electrochemical cell		
	Cell	Range	Typical accuracy (range : accuracy)*	
Standard gas cells	CH ₄	0-100%	0-70% : ±0.5% (vol)	70-100% : ±1.5% (vol)
	CO ₂	0-100%	0-60% : ±0.5% (vol)	60-100% : ±1.5% (vol)
	0 ₂	0-25%	0-25% : ±1.0% (vol)	
	Cell	Range	Typical accuracy (range : accuracy)*	
			Internal accuracy	External accuracy
Optional gas cells	H ₂ S	0-50ppm	±1.5% FS	±1.5% FS
	H ₂ S	0-200ppm	±2.0% FS	±1.5% FS
	H ₂ S	0-500ppm	±2.0% FS	±2.0% FS
	H ₂ S	0-1,000ppm	±2.0% FS	±2.0% FS
	H ₂ S	0-5,000ppm	±2.0% FS	±100ppm or 5% of reading (if greater)
	H ₂ S	0-10,000ppm	±5.0% FS	±200ppm or 5% of reading (if greater)
	СО	0-1,000ppm	±2.0% FS	±3.0% FS
	H ₂	0-1,000ppm	±2.5% FS	±1.5% FS
	Cell		Range	Response time
Response time, T90**	CH ₄	≤10 seconds	H ₂ S (0-50ppm)	≤30 seconds
	CO ₂	≤10 seconds	H ₂ S (0-200ppm)	≤35 seconds
	0 ₂	≤20 seconds	H ₂ S (0-500ppm)	≤35 seconds
			H ₂ S (0-1,000ppm)	≤35 seconds
	H ₂	<90 seconds	H ₂ S (0-5,000ppm)	≤40 seconds
	СО	<30 seconds	H ₂ S (0-10,000ppm)	≤40 seconds

*Plus accuracy of calibration gas used

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TECHNICAL SPECIFICATIONS CONTINUED

PUMP			
Flow	300ml / min typically		
Flow-fail point	Flow rate less than 75ml / min or vacuum greater than 350mbar		
Maximum vacuum restart	-375 mbar		
COMMUNICATIONS			
Output channels	Up to six analogue 4-20mA output channels that are user configurable for current sink or source inputs plus Modbus RTU digital output.		
	Optional Profibus module		
	Optional Profinet module		
Alarm notifications	1 x fault relay		
	7 x user-configurable alarms that can trigger a relay when above or below a set value. In addition, one can be used to indicate to the operator when the catchpot is full and requires emptying.		
Relay outputs	Single pole changeover 6A 24Vdc relay volt free		
ENVIRONMENT CONDIT	IONS		
Operating pressures	-350 mbar to +350 mbar		
IP rating	IP65		
Humidity	0-95% non-condensing humidity		
PHYSICAL			
Weight	36.5kg		
Size	650 x 600 x 210mm (with supplied wall mounting brackets)		
Enclosure	Stainless steel, 600 x 600 x 210mm, IP65 rated		
Operation keys	Alpha-numeric keypad with 'tactile' membrane		
Display	Ultra-clear high resolution 4.3" full colour TFT		
Moisture removal filters	User replaceable microfibre filter and 2.0µm ptfe water traps		
Heater option	Optional 100W mains powered ATEX certified heater for 110V or 230V mains supply		
CERTIFICATION RATING			
ISO17025	Calibrated under UKAS accreditation (certificate number 4533)		
ATEX / IECEx marking	€ II 3G Ex nA nC IIA T1 Gc (-20°C ≤ Ta ≤ +50°C)		
BS EN 61010-1:2010	Safety requirements for electrical equipment for measurement, control, and laboratory use		
BS EN 50270:2006	Electromagnetic compatibility- electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen		

¹ Continuous option will include a minimum 3 minute daily air purge



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Authorised distributor

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