



CH₄ | CO₂ | H₂S | O₂ | H₂

SWG100 Biogas

The versatile
biogas-analyser.



Continuous biogas analysis



SWG100 Biogas

Continuous biogas-analysis

The analyser can be installed in outdoor or indoor location, can sample dry or wet biogas, pressurized or low pressure gas and can be used from single point sampling up to max 10 sampling points.

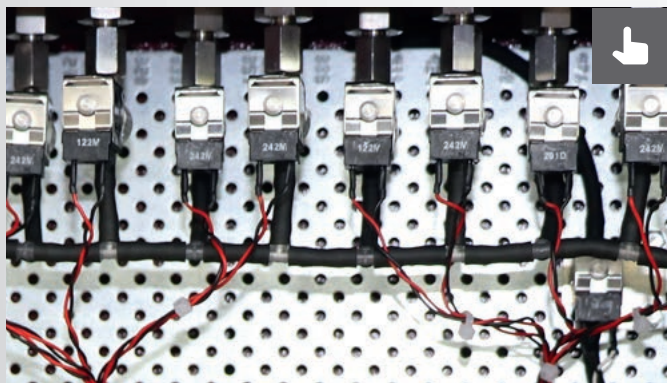
We offer you these special advantages:

- Biogas-measurement: CH₄, CO₂, O₂, H₂S, H₂
- Industry compatible rugged design for harsh industrial environment
- Standard system safety included with continuously monitored fan ventilation of cabinet, gas flow restrictor orifice at gas inlet
- Efficient sample gas preparation for fast and reliable measurements
- Direct and continuous/discontinuous measurement, with pressure and temperature compensation and event data logging
- Up to 10 sites monitoring (time sharing technique) with only one analyser
- Ready to run delivery, minimum installation work



The device in detail

An overview of the special features



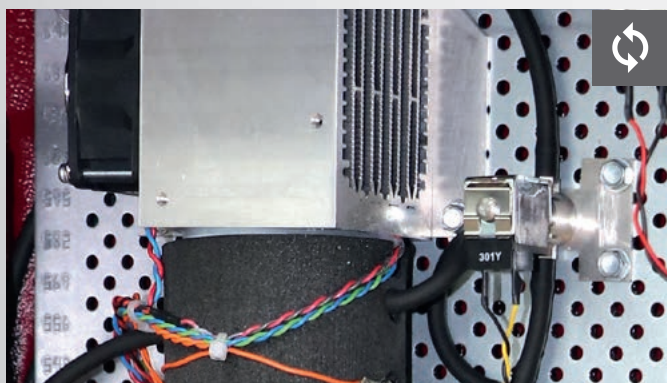
Multifold-switching gas inlets

Up to 10 inlets in just one device



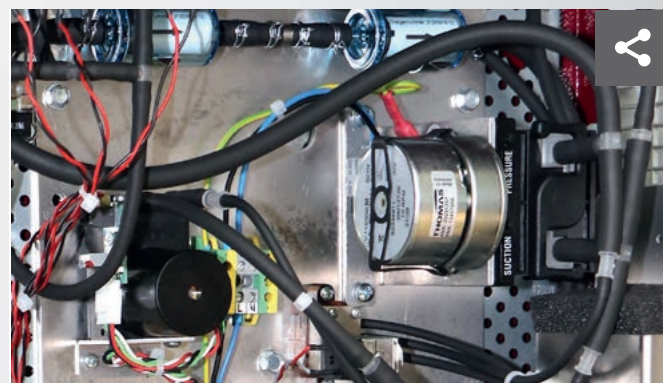
Cabinet heating

Temperature regulated, for use in safe environment



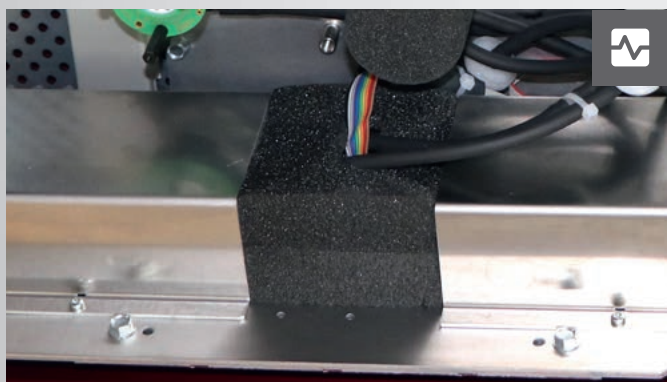
Gas cooler

Electric Peltier gas cooler and condensate pump



H₂S-measurement with dilution system

for applications with very high H₂S-concentrations



NDIR-bench

for CH₄/CO₂-analysis, 0 ... 100%, for biogas-, biomethane and offgas measurements



I/O-module

with 4-channel, 4 ... 20 mA analogue output and 2 alarm relays (NO contacts)

SWG 100 biogas

Technical specifications

Measured components	Measuring method	Range	Resolution	Accuracy
Methane CH ₄	NDIR	0 ... 100%	0,01 Vol.-%	±0,3 Vol.-% or 3% of reading**
Carbon dioxide CO ₂	NDIR	0 ... 100%	0,01 Vol.-%	±0,3 Vol.-% or 3% of reading**
Oxygen O ₂	EC	0 ... 25%	0,01 Vol.-%	±0,2% abs.
Hydrogen sulfide H ₂ S very low	EC	0 ... 50 / 250 ppm*	1 ppm	±2 ppm or 5 % of reading** (0 ...50 ppm)
Hydrogen sulfide H ₂ S	EC	0 ... 2.000/4.000 ppm*	1 ppm	± 5 ppm or 5% of reading** (0 ... 2.000 ppm)
Hydrogen sulfide H ₂ S low	EC	0 ... 200/1.000 ppm*	1 ppm	± 5 ppm or 10 % of reading**
Hydrogen sulfide H ₂ S high	EC	0 ... 100.000 ppm*	1 ppm	± 50 ppm or 5 % of reading** with option dilution unit
Hydrogen H ₂	EC	0 ... 1.000/2.000 ppm*	1 ppm	± 10 ppm or 10 % of reading** (>1.000 ppm)

Calculated components	Range	Resolution
Nitrogen background N ₂	0... 100%	0,1%
Gross calorific value	0...40 MJ/m ³ / 0...56 MJ/kg	0,1%
Calorific value	0...36 MJ/m ³ / 0...50 MJ/kg	0,1%
HMI / interfaces	3,5" TFT color display dirt resistand keypad, password protected calibration 4 x analog output 4 ... 20 mA, galvanically isolated max. load 500R 2 Alarm relais, potential free contacts 24 Vdc / 5 A RS485 digital interface (Modbus RTU) RS485 to USB-, Ethernet-, ProfiBus-converter	
System safety components	Monitored cabinet ventilation fan Stainless steel flow restrictor orifice and sample gas shut-down solenoid valve LEL (CH4) monitoring inside cabinet (option)	
Sample preparation	Stainless steel gas fittings with 1/8" ID threads Electric gas cooler Teflon particle filter Sampling biogas with condensate of max. 14ml/min Monitored and regulated sample flow 40...60 l/h Sample inlet pressure: -100 mbar to + 200 mbar Sample venting: atmosphere pressure	
Cabinet dimensions	700 x 600 x 210 mm (H x W x D) for wall or rack mounting	
Weight / Protection class	25 kg / IP54	
Installation site	Indoor or outdoor (rain and sun shade is mandatory user scope of supply)	
Ambient temperature	+5° C ... +45° C oder -10° C ... +45° C with cabinet heater	
Cabinet conditioning	Continuously monitored cabinet ventilation with alarm anti freeze heater 300W (Option)	
Power supply	Universal 90 ... 240 Vac / 47 ... 63 Hz / 90W (390W with heater)	

SWG 100
Bio-Ex for
Ex-Zone 2



OPTIMA Biogas
handheld device



MRU – Competence in gas analysis. Since 1984.

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