



CH₄ | CO₂ | H₂S | O₂ | H₂

SWG 100 BIOGAS

The versatile
biogas-analyzer.



Continuous biogas analysis



SWG 100 BIOGAS

Continuous biogas-analysis

The analyzer 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.

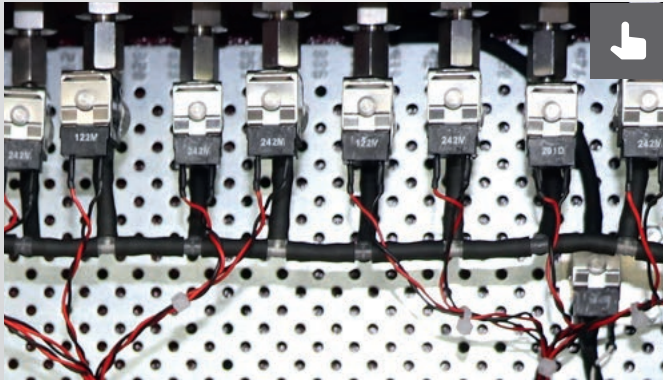
We offer you these special advantages:

- 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 analyzer
- Ready to run delivery, minimum installation work



The device in detail

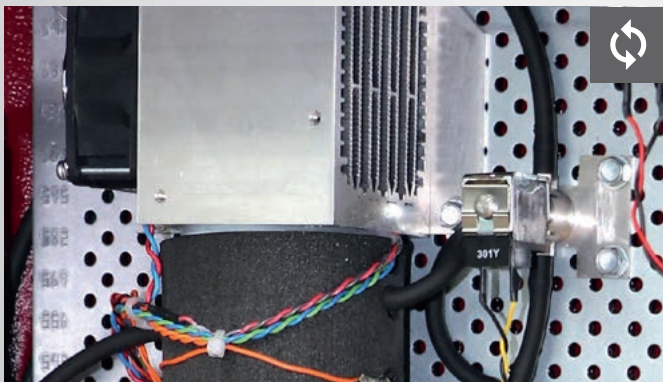
An overview of the special features



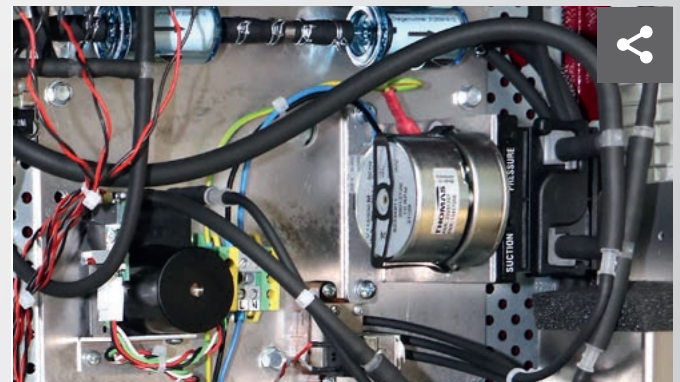
Multifold-switching gas inlets
Up to 10 inlets in just one device



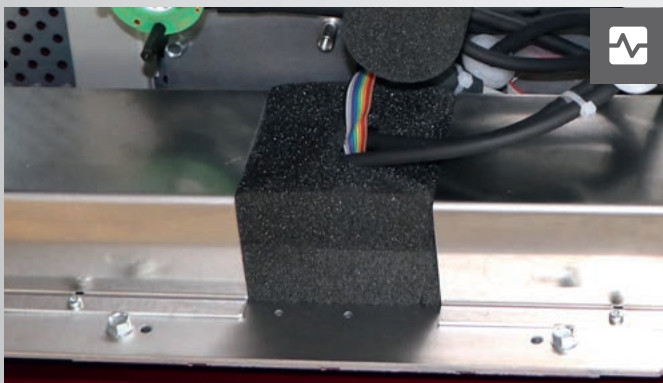
Cabinet heating
Temperature regulated, for use in safe environment



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)

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Technical specifications

Measured components	Measuring method	Range	Resolution	Accuracy
Methane CH ₄	NDIR	0 ... 100 %	0,01 Vol.-%	±0,3 Vol-% or 2 % of reading** or 0,1 % of reading after calibration**
Methane CH ₄	NDIR	0 ... 30.000 ppm	1 ppm	±5 ppm or 2 % of reading** or 0,1 % of reading after calibration**
Carbon dioxide CO ₂	NDIR	0 ... 100 %	0,01 Vol.-%	±0,3 Vol-% or 2 % of reading** or 0,1 % of reading after calibration**
Carbon dioxide CO ₂	NDIR	0 ... 5.000/30.000 ppm	1 ppm	±2/±5 ppm or 2 % of reading** or 0,1 % of reading after calibration**
Oxygen O ₂	EC	0 ... 25 %	0,01 Vol.-%	±0,2 % abs.
Hydrogen sulfide H ₂ S low	EC	0 ... 50/250 ppm*	1 ppm	±2 ppm or 5 % of reading** (0 ... 50 ppm)
Hydrogen sulfide H ₂ S high	EC	0 ... 5.000/10.000 ppm*	1 ppm	±5 ppm or 5 % of reading** (0 ... 5.000 ppm)
Option dilution	Each H ₂ S-sensor mentioned above, with a dilution factor of 1:50 applied			
Hydrogen H ₂	EC	0 ... 1.000/2.000 ppm*	1 ppm	± 10 ppm or 5 % of reading** (<1.000 ppm) 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 MJ/m ³ or MJ/kg
Calorific value	0 ... 36 MJ/m ³ / 0 ... 50 MJ/kg	0,1 MJ/m ³ or MJ/kg

HMI / interfaces	3,5" TFT color display dirt resistant keypad, password protected calibration 4 x analog output 4 ... 20 mA, galvanically isolated max. load 500R 2 Alarm relays, potential free contacts 24 Vdc / 5 A RS485 digital interface (Modbus RTU) RS485 to USB-, Ethernet-, Profibus/Profinet-converter
System safety components	Monitored cabinet ventilation fan Stainless steel flow restrictor orifice and sample gas shut-down solenoid valve LEL (CH ₄) 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 or -10° C ... +45° C (with optional cabinet heater)
Cabinet conditioning (aluminum)	Continuously monitored cabinet ventilation with alarm anti freeze heater 300W (Option)
Power supply	Universal 90 ... 240 Vac / 47 ... 63 Hz / 120W (420W with optional cabinet heater)



SWG 100 BIOcompact



SWG 100 BIO-EX for
Ex-Zone 2



OPTIMA Biogas
handheld device

MRU – Competence in gas analysis. Since 1984.

**MRU · Messgeraete fuer Rauchgase
und Umweltschutz GmbH**

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