



The methane concentration is too low?

The sulphur concentration is too high?

There is nothing left but hot air?



**It's time for you
to take control.**






The right analysis saves time and money

In most biotechnological plants measurements are of great importance. The more precise and continuous they are carried out, the more they prove to be cost- and time-saving factors. Therefore, for the smooth operation and economic success of your plant comprehensive process control and gas analysis are essential parameters.



Your partner for controlled success: AWITE



Take advantage of our many years of experience and know-how in the areas of gas analysis, automation and measuring techniques. Since 2000 Awite has been developing first-class, high-performance process analysis systems based on individual customer requirements.

We now have more than 1000 of our gas analysis systems and more than 70 automation systems up and running in 20 different countries. Having started with two people we now have 20 members on our team. Recently we moved into our new company building.

Not only do we offer the development, manufacture, installation and initial setup and operation of our systems but we are also your reliable partner for service and maintenance. You can count on us!

Our gas analysis systems are deployed successfully in agricultural biogas plants as well as in communal and industrial sewage plants generating biogas. The gas analysis systems can also take over small control tasks in your plant and integrate more sensors.



Smooth processes

The online analysis of the biogas composition in the individual fermenters and at other important points of your biogas plant is the basis for safe operation of your plant. Moreover, it offers reliable desulphurisation and a high return on the used materials.

Toughness, individual expandability, and very little maintenance effort are among the numerous strong points of the AWITE gas analysis systems. The configuration and setup of the systems are adapted to the special requirements of your biogas plant.

No doubt about it: the systems can be implemented anywhere

Our gas analysis systems have been successfully installed in plants with unusual gas usage, like fuel cell applications or set-ups for the feeding in of biogas into the natural gas network, as well as in research labs.

Let us know your requirements and we will provide you with a solution.





Get the balance right

With a low oxygen concentration of less than 1.0 vol% in the biogas a microbiological desulphurisation occurs in the head (gas) space. Oxygen concentrations that are too high can damage the whole system, reduce the production of biogas, can cause corrosion problems and dilute the biogas mixture. Therefore the air supply into the gas space has to be controlled.

In fully automated mode the AWITE gas analysis system measures the concentrations of oxygen and hydrogen sulphide in the biogas. By using a fuzzy logic control the set value of the oxygen concentration and the amount of air supply needed are controlled subject to the concentration of the hydrogen sulphide. The ultimate aim is to keep the concentration of the hydrogen sulphide as low as possible, to reduce costs and to achieve a high process stability.

Optimum conditions without any time-consuming adjustments. Make use of our complete (service) package!

Complete and unlimited usage: our lab systems


No matter how many fermenters you have in your plant: measurements know no boundaries. Gas meters and/or valves can be seamlessly integrated as well. Measurements only take place if there is enough gas. After every measurement the gas bag is emptied thoroughly in order to avoid wrong results.

To always achieve the highest accuracy of measurement our analysis systems are calibrated automatically. Additionally the analysis and visualisation are precisely tailored for your corporate network. With the AwiVIEW software you can evaluate and calculate data and export the results into Excel.

Moreover, our gas analysis systems can be used for agitators and heating systems.



Continuous systems – continuous cash flow






For all applications, which require fast and precise process monitoring and control, continuous systems are an essential component. Two procedures which should be mentioned in this context are the processing of gas to achieve natural gas quality and the feeding in of the gas into the natural gas network. Also, when you want to check the quality of your raw biogas before selling it, you should constantly monitor its quality.

With a single system one or more gas flows can be determined continuously. Automatic calibration as well as the monitoring of pumps/pressure and the redundant versions of essential components are the standard in this case, and not to forget: the continuous cash flow.



Continuous development – continuous success

Special applications – a matter of course for us.

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- By integrating flow meters, temperature/pressure sensors and humidity sensors the standard volume and the energy content for the sale of biogas can be determined (incl. all sensors)
 - Automatic calibration and increase of accuracy of measurement
 - Control of one or more CHPs using the fill level in the gas storage and the current gas consumption (control of the performance in stages, stageless or with fuzzy logic control)
 - Adjustment of the concentration of hydrogen sulphide by specifically adding desulphurisation salts (complete dosage modules)
 - Delivery and connection of all sensors for all options mentioned
 - Determination of computed values derived from multiple measured variables
 - Energy calculator
 - Usage as data logger
 - Generation of reports, connection of printers



Two components you can rely on

AwiFLEX offers highest flexibility. Here is an overview.

- Customisable, multifunctional, extendable
- Online analysis of the composition of your biogas
- Highest standard for the measurement of CH₄ and CO₂ using infrared sensors
- Extension of various gas sensors, like H₂S (up to 5,000 ppm), H₂, O₂
- Flexible number of measuring points
- Continuous or discontinuous measurements
- Numerous data interfaces
- Endless options for extension

AwiECO offers reliable and cost-effective measurement of your biogas.

- Compact, cost-effective, standardised
- Online analysis of the composition of your biogas
- Highest standard for the measurement of CH₄ and CO₂ using infrared sensors
- Optional extensions for the measurement of O₂ and H₂S
- Menu-based operation via touch screen
- Graphic and tabular presentation of measured values
- Unlimited storage of measured values
- Output of measured values via analogue signals

Technically unbeatable: flexible and cost-effective

Sensors	Measurement	AwiFLEX Measuring range	AwiFLEX Repeatability/drift p. a.	AwiECO Measuring range	AwiECO Repeatability/drift p. a.
Methane	Infrared 2-beam sensor, temperature and pressure compensation	0-100 Vol% Others available on request	±0.2 Vol% / 1.5 Vol%	0-100 Vol%	±0.2 Vol% / 1.5 Vol%
Carbon dioxide	Infrared 2-beam sensor, temperature and pressure compensation	0-100 Vol% Others available on request	±0.2 Vol% / 1.5 Vol%	0-100 Vol% as an alternative for CH ₄	±0.2 Vol% / 1.5 Vol% as an alternative for CH ₄
Oxygen	Electrochemical or paramagnetic, temperature and/or pressure compensation	0-25 Vol%	±0.02 Vol% / 2.5 Vol%	0-25% Vol%	±0.1 Vol% / 2.5 Vol%
Hydrogen sulphide	Electrochemical, pressure compensation	from 0-20 ppm to 0-5,000 ppm	±0.5 ppm / 2.5 ppm ±50 ppm / 300 ppm	0-200 ppm 0-3,000 ppm	±5 ppm / 25 ppm ±50 ppm / 200 ppm
Hydrogen	Electrochemical, pressure compensation	0-2,000 ppm 0-5,000 ppm 0-20,000 ppm 0-100% (only possible for devices with auto calibration)	±25 ppm / 64 ppm ±50 ppm / 150 ppm		
More		Connection of additional sensors possible (e.g. pressure, temperature, fill level, flow, humidity)			
Number of sensors		Variable			



AwiFLEX

Operation

Discontinuous or continuous,
automatic calibration possible

Gas inlet

1–5 measuring points on the device, more than
5 measuring points with external switching

Display

7" touch screen / colour, resolution: 800 x 480 px
Graphic and tabular presentation of measured values

Data interfaces

Analogue outputs (M12 connector)
Ethernet 10 / 100 Mbit RJ45 up to 100 m
Profibus, USB
RS232 up to 10 m
RS232 up to 1,000 m

Bus protocols

Modbus / RTU, Modbus / TCP, FTP
AWITE Socket, Simatic Fetch-Write
Profibus-DP, Ethernet / IP, others available on request

Power supply

100–240 V AC; 45–65 Hz

Dimensions

W x H x D = 450 x 650 x 250 mm

Weight

approx. 20 kg

Protection type

IP54

Explosion protection

Device category 3 for setup of the device in
zone II possible, device category II 3G EEx n T1 X

Power consumption

100 W

Back-up fuse

6A characteristics B

Special characteristics

Controlled desulphurisation using fuzzy logic control
more control tasks and calculations possible
Remote maintenance possible
(using AwiVIEW and ProcessView software)



AwiECO

Operation

Discontinuous
(50 measurements per day)

Gas inlet

1 measuring point

Display

7" touch screen / colour, resolution: 800 x 480 px
Graphic and tabular presentation of measured values

Data interfaces

Analogue outputs (M12 connector)
USB (optional)

Bus protocols

Not available

Power supply

100–240 V AC; 45–65 Hz

Dimensions

W x H x D = 350 x 360 x 200 mm

Weight

approx. 33.07 lb

Protection type

IP54

Explosion protection

not available

Power consumption

35 W

Back-up fuse

6A, characteristics B

Special characteristics

None

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AwifECO





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