BIOGAS

IMR2600 Bio

The gas analyzer with integrated gas conditioning system for industrial applications. Optimizing processes and enhancing plant safety.

PRODUCT ADVANTAGES FROM A–Z

- **Accumulator**
  Rechargeable lead acid battery guarantees 6 hours of independence from the mains. The accumulator is protected against over charging.
- **Case**
  Built in a robust, protective case.
- **Data software**
  IPC - data software for online data transfer to a personal computer. Data evaluation with Microsoft Excel.*
- **Display**
  Illuminated 4 line LCD display, operator guidance in clear text, display of all parameters simultaneously in either ppm, Vol-% or mg/mg^3.
- **Dust filter**
  Particle filter 4 µ, with replaceable filter cartridge.
- **Gas conditioning**
  Gas conditioning system with Peltier controlled heat exchanger built in next to the flue gas analyzer. Cooling power 120 kJ/h, Gas volume 150 l/h, outlet dew point 5 °C, operating and status indication by colored LED´s on the front panel. The gas conditioning system is maintenance free.
- **Interface**
  USB 2.0 and RS 232 C serial interface.
- **Keyboard**
  Easy to operate keyboard with self explaining markings.
- **Mean value calculation**
  Integrated automatic calculation of mean values with automated printout to generate time related average emission values.
- **Memory**
  Manual memory.
- **Power supply**
  230 V/50 Hz or 110 V/60 Hz mains power supply, 12 V from the built-in battery.
- **Printer**
  Integrated thermo printer.
- **Probe tubing**
  Standard length 3.5 m. Extensions' are available.
- **Protocol**
  Automatic print out with date and time. Automatic interval can be programmed (1 - 99 min.).
- **Sample gas probe**
  Gas extraction probe with K-type thermocouple according to DIN IEC 584, part 2. class 1, heat insulated handle, stainless steel fixture cone. Standard length 300 others on request.
- **Service software**
  Integrated service software, information such as operation time, battery capacity, sensor self check, system failures are displayed automatically on the display.
- **Zero calibration**
  Automatic zero calibration with ambient air on every start of the system, optical and acoustical signal after calibration finish (ca. 10 min.).

REQUIREMENTS

The use of modern technology for combustion and the introduction of new fuels require a continuous evolution of gas analysis. The goal is to optimize processes in bio gas and wood gas generator plants as well as to enhance plant and occupational safety. The key to an enhanced safety and efficiency of a bio gas plant is the precise measurement of gas concentration profiles. Some aggressive substances are getting released during the production of bio gas and wood distillates. The analyzing technology has to be able to cope with these.

THE APPLICATION

The IMR2600 Bio is equipped with a gas conditioning system utilizing a Peltier cooler. Up to 6 gases can be measured at a time. The size of the instrument enables to easily reach even very restricted places.

The main applications are:

- process optimization
- plant safety
- environmental monitoring
- plant commissioning

THE PERFORMANCE DATA

Gentics uses electrochemical sensors for the measurement of O_2 and H_2S. For CO_2 and hydrocarbons NDIR (non dispersive infrared absorption) sensors are being used. While H2 is being measured utilizing the TCD principle.

The IMR2600 Bio is of modular design and easy to operate. All measured gas concentrations are shown simultaneously on a illuminated LCD display. Additional gas and air temperature measurement as well as O_2 measurement is optional.

The gas conditioning system dries the gas sample, a precondition for high accuracy. The infrared sensors are heated to optimize ambient temperature compensation. Ambient pressure compensation is carried out as well.

An integrated printer provides data documentation as a real time log as well as mean values. The instrument comes with a RS 232 and a USB interface for data output.

THE SOLUTION

The IMR2600 Bio with integrated gas conditioning is the perfect measuring system for all industrial bio gas and wood gas generator technology applications. This system guarantees highly accurate measurement values without any restriction in mobility. A wide choice of gas sampling probes for almost any circumstance completes the system.

The flue gas analyzers of **Gentics** are being operated in many countries around the world and are fulfilling or exceeding not just national but also international standards.

TECHNICAL DATA

COMPONENT	METHOD	SMALLEST MEASURING RANGE	LARGEST MEASURING RANGE	RESOLUTION	ACCURACY
O_2 (Oxygen)	electrochem. sensor	0 ... 20,95 Vol.-%	0 ... 20,95 Vol.-%	0,01 Vol.-%	± 0,2%
H_2S (Hydrogen sulfide)*	electrochem. sensor	0 ... 100 ppm	0 ... 5.000 ppm	1 ppm	± 2%
H_2 (Hydrogen)*	TCD	0 ... 20 Vol.-%	0 ... 100 Vol.-%	1 Vol.-%	± 3%
C_xH_y (Hydro carbons)*	Infrared sensor	0 ... 5 Vol.-%	0 ... 100 Vol.-%	0,1 Vol.-%	± 2%
CO_2 (Carbon dioxide)*	Infrared sensor	0 ... 20 Vol.-%	0 ... 100 Vol.-%	0,1 Vol.-%	± 2%
CO (Carbon monoxide)*	Infrared sensor	0 ... 2.000 ppm	0 ... 100 Vol.-%	0,1 Vol.-%	± 2%
°C (flue gas temperature)	Thermocouple	0 ... 500 °C	0 ... 1.205 °C	1 K	± 1 K
°C (Ambient temperature)	Semiconductor sensor	- 20 ... 120 °C	- 20 ... 120 °C	1 K	± 1 K
hPa Pressure/Draft	Semiconductor sensor	± 20 hPa (mm H_2O)	± 300 hPa (mm H_2O)	0,01	± 2%
The analyzer complies with EN 50379-2, TÜV registration N° ByRgG 142					

FURTHER TECHNICAL DATA	
Weight	14 kg
Dimensions	530 x 330 x 190 mm (W x H x D)
Consistency	± 1% of full range
Linearity	± 1%
Drift (electro chem.sensor)	< 5 %/year
Response time/T90	< 40 sec
Operationg temperature	+5 °C to +40 °C
Pump capacity	120 l/h
max. draft	-0,3 bar
max. pressure	1,2 bar
Storage temperature	-20 °C to +50 °C

* Option

DIN EN 50379-2