



R490 M MicroGC

Specifications

- Rapid analysis of the quality of Biomethane, of its certified Metrology SHV and of THT
- 5U 19" Rack
- Turnkey analysis
- Modbus link to supervisor or PLC
- Serial Modbus link dedicated to Metrology

The measurement of the quality of Biomethane and its heat value are essential parameters before injection into the natural gas network. The R490 M analyzer has been developed to meet this requirement.

Compact system. The system is mounted in a 5U 19" Rack compatible with standard analysis bays.

Quick analysis. The R490 M can perform a measurement every 3 minutes.

Immediate start-up. The instrument is delivered ready for use with acceptance report. The entire analytical method is provided with the device.

Connection. The R490 M is designed to be connected by serial Modbus link to allow the transmission of results.

Configuration :

- Two specific channels for the analysis of the quality of Biomethane, H₂S, COS and the certified SHV measurement
- A third channel with a dedicated sample input for the analysis of THT or other compounds
- Computer and embedded software including:
 - Automation
 - Piloting
 - Control
 - Integration and calculation
 - Modbus tables

System settings :

- With the Soprane software installed on the embedded PC
- Possibility to connect directly screen, keyboard, mouse on the analyzer for maintenance operations
- Possibility of remote control via Ethernet connection

Injector :

- Miniature without moving part
- Variable injection volume from 1 µL to 10 µL programmable by software
- Heated

Oven :

- Isotherm can be set from 40 °C to 180 °C

Detector :

- Micro catharometer (TCD)
- Two channels (sample and reference)
- Internal volume: 200 nL per channel
- Filaments: 4

Quantification limit :

- a few ppmV

Measuring range :

- Concentration from ppmV to 100 %
- SHV from 9 to 12.6 kWh/m³ (32.4 to 45.3 MJ/m³)

Repeatability :

- Less than 2 % RSD at 25 °C with sample temperature stabilized at 25 °C

Adjustment :

- Using standard cylinders not supplied
- Performed on a Biomethane mixture for the SHV
- Performed on an average of 3 consecutive analyses

Uncertainty of measurement :

- SHV, Wobbe index, density: the device is class A
- Less than ± 5 % of the read value for CO₂
- Less than or equal to ± 20 % of the read value for O₂, H₂S, THT

Carrier Gas :

- Helium 99.9999 % purity, 5.5 ± 0.1 bar rel.
- 1/16" Swagelok stainless steel inlet connection

Sample :

- Swagelok stainless steel inlet connection
- Integrated high capacity 5µm dust filter
- Maximum inlet pressure 1 bar rel.
- Minimum inlet pressure 0.1 bar rel.

Environment :

- Relative humidity : 0 to 95 %
- Temperature : -10 °C to 40 °C

Communication :

- TCP/IP Ethernet port
- RS485 Modbus certified Metrology
- 4-20 mA outputs (optional)

Alarms :

- Configurable
- SHV and total of raw concentrations by default

Automation :

- Automatic start possible on power-up or after mains return
- Delay between analyses can be configured

Data filing :

- On the embedded computer or configurable on a remote server

Documents :

- Specific manuals in English
- Acceptance documents
- Analyzer Type Examination Certificate

Dimensions and weight :

- 5U 19" Rack (L482mm x H225mm x W464mm)
- Weight : 17 kg

Power supply :

- 100-240 Vac 50-60 Hz 6.3 At