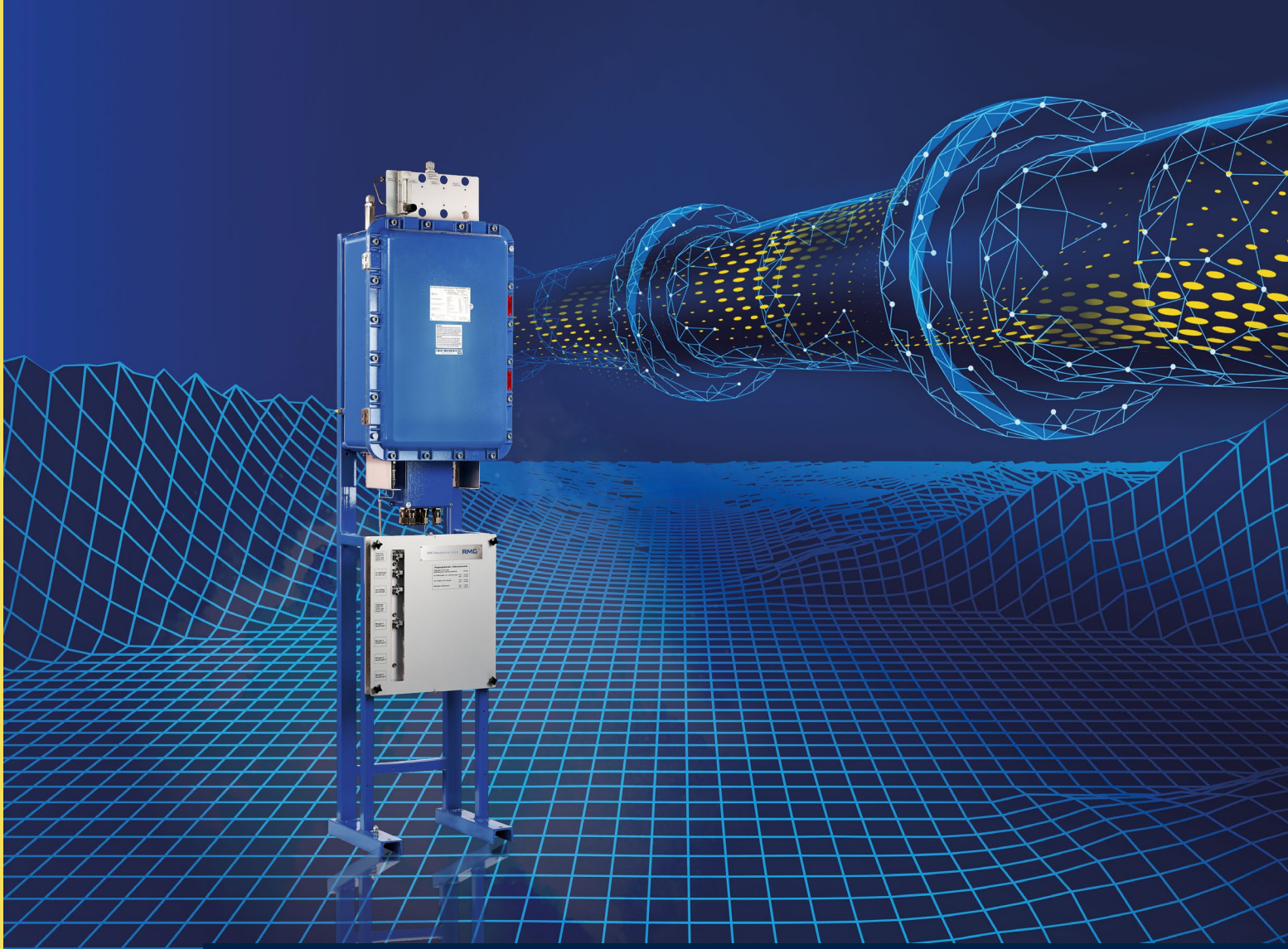


RMG
PROCESS GAS CHROMATOGRAPH
PGC 9301

The PGC 9301 process gas chromatograph analyzes the composition of natural gas or upgraded biogas and determines their most important components.

RMG
ONE STEP AHEAD

About the PGC 9301

Function and structure

Gas quality matters. The PGC 9301 from RMG stands for advanced gas quality measurement tested according to OIML R140.

The PGC 9301 process gas chromatograph analyzes the composition of natural gas or upgraded biogas and determines their most important components (up to 11) in mol % proportions. From these proportions, the following quantities are calculated (according to ISO 6976 or GPA 217209): Superior and inferior calorific value, standard density, density ratio and Wobbe number (optional the methane number as well). Be ready for the change of gas qualities in the network.

Reliable in use

Renewable energy is on the rise and brings fl uctuations in natural gas quality. This increases the need for additional measurements of hydrogen and oxygen components to accurately determine the gas composition.

Proven performance

Precise analysis of gas composition is crucial for the efficient use of natural gas in various applications. Modern measurement technologies ensure continuous monitoring and adjustment of gas quality to ensure a stable and secure energy supply. These technologies are robust and reliable, even under changing conditions, and contribute to successfully meeting the challenges of the energy transition.

RMG – your competent partner

- More than 150 years of experience in the natural gas industry
- Leading global solution provider in the field of control, measurement and analysis technology
- Products and solutions for transportation, storage, distribution and consumption of natural gas
- On-site support with global expertise
- Single-source provider with broad product portfolio and services

Precise by design

The measurement accuracy of the PGC 9301 is ±0.10 percent (calorific value and standard density). The instruments are therefore suitable for demanding applications in the field of renewable energies, biogas and PowertoGas - you can reduce your operating costs and get even more accurate and reliable energy consumption data.

Reliable technology

To calculate the gas compressibility, the PGC 9301 measures the compressibility based on the AGA 8 compressibility index. The percentage of up to thirteen diff erent main natural gas constituents is measured. This data will be used for calculating the upper and lower calorifi c value, standard density, relative density and Wobbe index, taking into account the constituent characteristics in accordance with the ISO 6976 or GPA 217209. The reliable measurement method enables determination of the energy content of measured gas for invoicing purposes. The PGC 9301 process gas chromatograph from RMG meets all the requirements of the rapidly growing natural gas industry.

Fully integrated: Guaranteed accuracy

The instrument accurately determines the calorific value of natural gas, helping to reduce costs while lowering carrier consumption.
The PGC 9301 process gas chromatograph consists of five main components: the measuring unit, analytical computer, sample probe, pressure reducer, and gas supply unit. The measuring units are designed according to the modular principle and can be equipped with two column modules.

Thanks to its modular design, the PGC 9301 can be flexibly integrated into existing plants and systems – ideal for individual installation concepts in gas transport, storage or industrial applications.

Requirements and areas of application

Meeting requirements

In addition to the calorifi c value and standard density, the PGC 9300 also calculates the relative density, the calorific value, the Wobbe Index and optionally the methane number.

Zuverlässige Funktionalität

RMG has optimized the method of analyzing the composition of natural gas and biogas. In the PGC 9300, individual gas components are separated from each other in special capillaries, i.e. columns. These fl ow one after the other through a thermal conductivity detector, which measures the respective percentages. In the process, carrier gas flows continuously through the miniature column/detector unit and is injected with a fi xed amount of sample gas for analysis.

To ensure constant accuracy, the gas chromatograph is automatically calibrated at regular intervals. This involves analyzing a gas mixture with a known composition.

Various areas of application

In addition to calculating the superior calorific value and the standard density for custody transfer measurements, the PGC 9301 can also be used to determine relative density, inferior calorifi c value, Wobbe index and methane number.

The analytical computer of the PGC 9300 can be connected to other measuring instruments via inputs, for example to measure room temperature and dew point. In addition contact pressure gauge can be connected, and it is possible to create collective fault messages for the pressure reducer as well as for the gas supply unit.

Fields of application

- Custody transfer operation
- Legal metrology
- K-number determination
- Gas mixer control
- Power-to-gas
- Long-distance plants
- Municipal/regional utilities

The PGC 9301 can be used anywhere in the world. General approvals such as ATEX and IECS are available; local metrological approvals may apply.

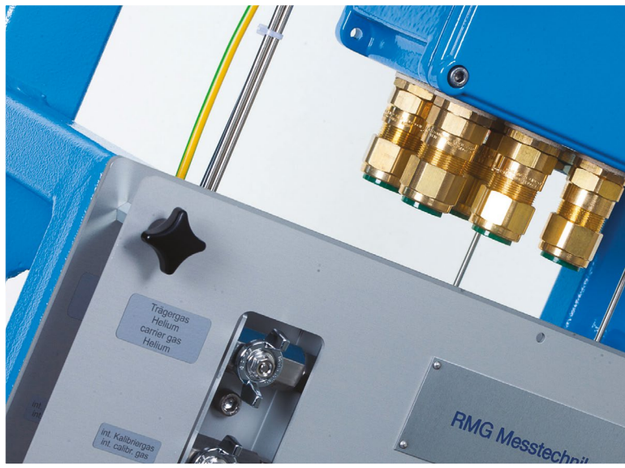
Interaction direktly on the device or remote

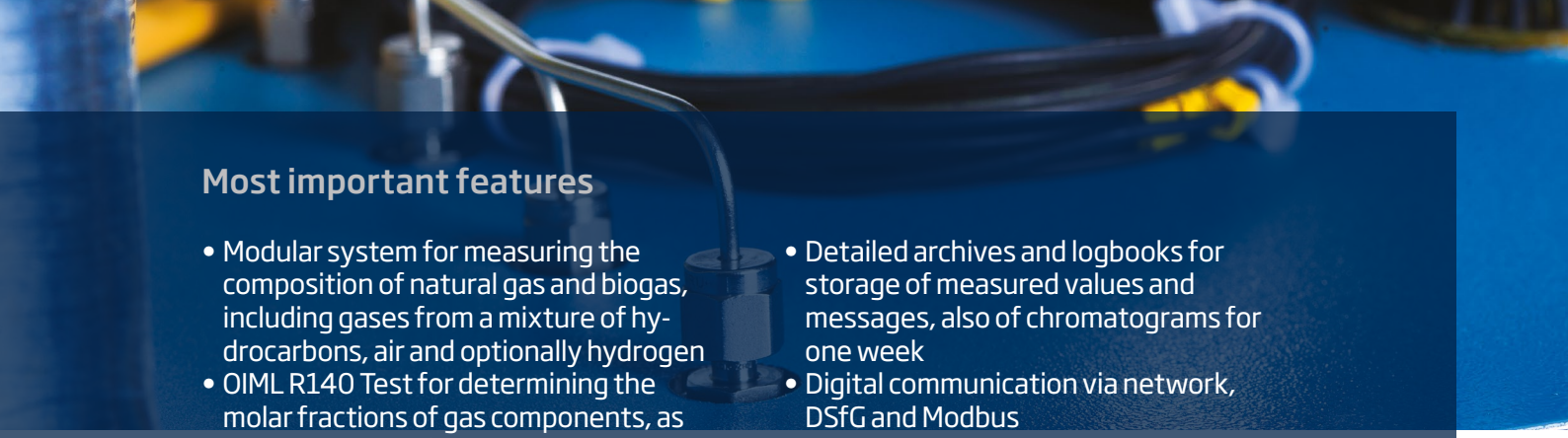
Simple operation

The user interface of the PGC 9300 analyzer computer is a touch screen with a graphical interface that allows intuitive operation of the instrument. Individual parameters are described with help texts; the programmable display provides quick access to the 20 most important parameters or values.

Flexible communication

The analytical computer of the chromatograph has two TCP/IP interfaces: one for communication with the measuring unit and the other one for the operator and the RMGViewGC operating software. The analytical computer also supports a screen for remote operation via an Ethernet connection. On-site maintenance and field service can be minimized.





Most important features

- Modular system for measuring the composition of natural gas and biogas, including gases from a mixture of hydrocarbons, air and optionally hydrogen
- OIML R140 Test for determining the molar fractions of gas components, as well as the calorific value and standard density
- Measurement of natural gas and biogas using helium as carrier gas.
- Single and multi-flow version for gas from up to four measuring points
- Analytical computer with touch screen for easy operation
- Detailed archives and logbooks for storage of measured values and messages, also of chromatograms for one week
- Digital communication via network, DSfG and Modbus
- Additional analog and digital inputs and outputs for connection to an external module equipped with a serial interface
- Low maintenance system, only recording of operating parameters
- Analytical computer with touchscreen for easy operation

Subject of technical changes

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