



## PES15 R

Flow computers

Measuring systems

Remote Terminal Unit

Supervisory system

The PES15 R is a turnkey solution for transactional quality gas and energy measurement for natural gas, biomethane, biogas and specific gases.

It comes in two versions: ATEX and a mono and multi-channel laboratory version.

The PES15 R chromatograph is available as a stand-alone product, for integration into your sampling system.

The PES15 R provides highly accurate measurements and calculations such as energy, calorific value, Wobbe index and density.

### Compact ready-to-use energy metering system

The PES15 R complies with OIMLR140 and has its own sampling system.

#### In particular it has

- One to four analysis paths.
- Manual or automatic adjustments.
- A fast loop for shorter response times.
- All the necessary protections (filters, valves, etc.).
- Integrated chromatograph control.

### Site package ready to use in ATEX hydrogen zones

The package can be installed and assembled close to the sampling point, reducing costs for shelter, heating and sampling lines whilst maintaining accuracy and reliability. Less connection cabling is needed. A junction box makes wiring easier.

### Extended data logging and communication

Cascade transmission of chromatograph analysis data to several processors ensures development of the metering station at the lowest cost. Five Modbus serial links are available and configurable, for easy integration with other equipment. Metering and analysis data are securely logged on a removable memory device.

### Main applications

- Analysis and metering in production areas.
- International metering stations.
- Pipeline interconnections.
- Underground storage facilities.
- LNG terminals.
- Industrial analyses and processes.

### Simple to use and easy to maintain

- With its pre-integrated functions, the PES15 R saves time and money in the start-up and maintenance phases.
- There's no need for an expert for any repairs.
- Commissioning only takes half a day.
- The PES15 R has a battery life of 2 years with no bottle change required thanks to its low carrier gas consumption.
- Configuration, operation and maintenance are quick, easy and simple with its user-friendly and multilingual interface software, online diagnostics and integrated keyboard and display.
- With Plug and Play technology, maintenance costs are optimized.
- The rigorously sourced valves ensure millions of cycles.
- Filter cartridges are easy to replace.

# Technical data - Energy metering package for gas

| Model                      |  | PES15 R   |   |
|----------------------------|--|---|---|
| Functions                  |  | Analysis of the 11 main components of the natural gas according to the standard ISO 6974<br>Calculations based on the standard ISO 6976 or GPA 2145-09, 2172, 2261: SCV, ICV, density gravity, Wobbe indice and basis compressibility factor<br>Energy metering and Conversion of the gas quality according to the standard ISO 13443   |   |
|                            | Analysing time   | 300 seconds (per stream)  |   |
|                            | Calibration  | Manual, semi-automatic or automatic   |   |
| Métrology                  |  | Gaz Quality ISO 6976, GPA 2145-09, 2172, 2261 selon les Normes ISO 6974, ISO 13443  |   |
| Component measuring ranges |  | Components  | Range (mol %) (other on ask)  |
|                            |  | CH4 (méthane)   | 50-100  |
|                            |  | C2H6 (éthane)   | 0-15  |
|                            |  | C3H8 (propane)  | 0-3   |
|                            |  | n-C4H10 (n-butane)  | 0-1   |
|                            |  | i-C4H10 (isobutane)   | 0-1   |
|                            |  | n-C5H12 (n-pentane)   | 0-0.5   |
|                            |  | i-C5H12 (isopentane)  | 0-0.5   |
|                            |  | neo-C5H12 (néopentane)  | 0-0.5   |
|                            |  | C6+   | 0-0.3   |
|                            |  | N2 (azote)  | 0-20  |
|                            |  | CO2 (dioxyde de carbone)  | 0-10  |
| Equipment                  |  | Detector  | Micro TCD (Thermal Conductivity Detector)   |
|                            | Chromatograph controller   | Flow computer CDV15   |   |
|                            | User interface   | LCD 4 20-characters lines, 99,999,999 stage alphanumeric display – 6-key keyboard   |   |
|                            | Enclosure  | Box : painted steel<br>Size : 600 x 400 x 250 mm (without junction box); weight : 20 kg<br>Standard mounting: wall or bracket<br>Pneumatic connection: double ring system<br>Electric connection by junction box: cable gland for armoured cable  |   |
|                            | Data storage   | 4 400 000 data  |   |
| Inputs/Outputs             |  | Temperature   | 2 Pt100 class A, 24-bit resolution or passive 4-20mA  |
|                            | Analog input   | 6 4-20mA passive, 24bit resolution for pressure, temperature or others  |   |
|                            | Digital input/output<br>Dry contact inputs or open collector outputs | 8* can be configured for automatic calibration, steam switching, status detection, information copy, monitoring   |   |
|                            | Analog output  | Can be configured for analog data copy (flow rate, pressure, temperature)<br>2 0,4-2VCC (4-20mA upon request), 12-bit resolution<br>3* 4-20mA 12-bit resolution for direct output of data measured and calculated by chromatograph  |   |
|                            | RS232 Serial link  | 1 Configuration – programming-1 Printer communication<br>1* MODBUS for external Modem, link with automation (PLC), supervision  |   |
|                            | RS422 Serial link  | 2 MODBUS or proprietary protocol  |   |
|                            | RS485 Serial link  | 1* for communication with chromatograph   |   |
|                            | Fieldbus serial link   | 1* for communication with chromatograph (* : more output upon request)  |   |
| Languages                  |  | French, English, Spanish, Italian for operation, diagnostic, maintenance, configuration   |   |
| Operating Conditions       |  | Temperature   | Ambient : -10°C to +50°C; Air conditioning and heating upon request; Storage : -40°C to +70°C |
|                            | Relative Humidity  | < 98% without condensation  |   |
|                            | Flowrate of gas  | 50 mL/mn +/- 20 mL/mn   |   |
|                            | Dust and mist  | None  |   |
|                            | Coexisting components limit  | H2 < 0.1 mol %, He < 0.1 mol %, O2 < 1 mol %, H2S (sec)< 0.1 mol %  |   |
|                            | Carrier gas  | Helium, purity : 99,99 % 4 bar +/- 0.5 bar - 9 mL/min (around), = 2 year bottle autonomy  |   |
|                            | Air instrument   | Helium, air or azote - purity : 99,99 %: 4 bar +/- 0.5 bar - 3 mL/min, = 6 year bottle autonomy   |   |
| Installation               |  | ATEX certification  | ☉ CE II2G IIC T3 Gb   |
|                            | Protection class   | IP 66   |   |
|                            | Power supply   | 24 Volts DC, 115Vca or 230Vca , 50 or 60Hz  |   |
|                            | Custody transfer approval  | According to OIML R140 - EC examination certificate of the LNE -N° 14140  |   |
|                            | National Approvals   | Algeria, Armenia, Austria, Bahrain, Bangladesh, Belgium , Brazil, Bosnia, Brunei, Canada, Chile, Congo,Czech Republic, Egypt, France, Germany, Hungary, Italy, India, Iran, Israel, Japan, Libya, Mexico, Nigeria,Norway, Pakistan, Poland, Portugal, Qatar, Romania, Russia, Serbia, Singapore, South Africa, Spain,Syria, Sweden, Switzerland, The Netherlands, Tunisia, Turkey, UAE,United Kingdom, USA, Venezuela |   |

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