

Energy metering package for gas

BGC PES15 R



The BGC 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 BGC PES15 R chromatograph - PES15R - is available as a stand-alone product, for integration into your sampling system. The equipment provides highly accurate measurements and calculations such as energy, calorific value, Wobbe index and density.

Compact ready-to-use energy metering system

The PES15R 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 PES15R 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 PES15R 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

BGC Model		PES15R		
Functions		Analysis of the 11 main components of the natural gas according to the standard ISO 6974 Calculations based on the standard ISO 6976 or GPA 2145-09, 2172, 2261: SCV, ICV, density gravity, Wobbe indice and basis compressibility factor Energy metering and Conversion of the gas quality according to the standard ISO 13443		
	Analysing time	300 seconds (per stream)		
Métrology	Calibration	Manual, semi-automatic or automatic		
	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)	Minimum detection (mol %)
		CH4 (méthane)	50-100	-
		C2H6 (éthane)	0-15	0.05
		C3H8 (propane)	0-3	0.05
		n-C4H10 (n-butane)	0-1	0.01
		i-C4H10 (isobutane)	0-1	0.01
		n-C5H12 (n-pentane)	0-0.5	0.01
		i-C5H12 (isopentane)	0-0.5	0.01
		neo-C5H12 (néopentane)	0-0.5	0.01
		C6+	0-0.3	0.01
		N2 (azote)	0-20	0.1
		CO2 (dioxyde de carbone)	0-10	0.05
	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 Size : 600 x 400 x 250 mm (without junction box); weight : 20 kg Standard mounting: wall or bracket Pneumatic connection: double ring system 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 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) 2 0,4-2VCC (4-20mA upon request), 12-bit resolution 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 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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