

GasPT - Integrated (GasPTi)

Technical Data Sheet



GasPTi

GasPTi is a comprehensive, revolutionary and most importantly, fast response instrument. The PTi provides accurate, real-time monitoring of the key physical properties of natural gas including: CV/BTU, Relative Density, Wobbe, Compressibility, Motor Octane Number, Carbon Dioxide and others. GasPTi's unique and proven technology has been implemented in numerous installations across the world with many globally recognized organizations.

Technology recognised in standards as valid for custody transfer in US (AGA 5) and EU (OIML R140).

GasPT derives a simplified equivalent 5-gas mixture from which it utilizes the standard ISO6976 gross characterization method to calculate the gas quality parameters. For sampling, the patented VE Technology[®] sample probe eliminates vortex shedding and the need for vortex shedding (wake) calculations. This allows you to utilize any length of probe to ensure a representative sample is taken from the centre 1/3 of the pipe. In addition, its aerodynamic tip actively rejects particulates to allow significantly reduced filtration and improved accuracy.

The integrated gas conditioning system provides filtering, temperature, pressure reduction with full Joule-Thomson protection and flow-control, which when pipeline mounted provides fast, accurate sampling and measurement.

“GasPT provides the industry critical information about the physical properties of natural gas.”

Benefits

- 1) **Easy to install, configure and operate.** Installation and commissioning of full system is typically less than 2 hours.
- 2) **No on-going analyser maintenance or technical support needed.** Simple annual validation, which is recommended once every 12 months.
- 3) **No carrier gas** eliminates safety concerns and availability of helium or hydrogen storage. Also further reductions in running costs.
- 4) **No continuous calibration gas** eliminates the need for cylinder storage and rental. As well as fewer running costs.
- 5) **Reduced uncertainty,** near real-time CV data matching, instantaneous flow measurement. Instruments updating every 2 seconds.

Standard Options

- **GasPTi-F** - Pipeline-mounted with fixed VE Technology[®] sample probe
- **GasPTi-P** - Post-mounted with optional remote sample probe
- **GasPTi-R** - Post-mounted with retractable VE Technology[®] sample probe

Additional Options

- **GasPTi-LP** - Low pressure system <10barg (145psig) inlet pressure
- **GasPTi-LNG** - Specifically for rapid and accurate analysis of LNG



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Dimensions	46cm x 41cm x 51cm (18"x16"x20") (Typical cabinet size, excluding sample probe)
Weight	25kg (55lb) (Excluding sample probe)
Maximum Inlet Pressure	100 Barg (1450 psi)
Analysis Time	Instrument Update < 2 secs GasPTi system response (sample time + analysis) T90 < 10 secs
Accuracy	Better than $\pm 0.5\%$ error on CV and Wobbe measured value
Repeatability	CV and Wobbe $\pm 0.04\text{MJ/m}^3$ (1.07Btu/ft ³) at ambient temperature
Temperature Range	Operation: -20°C to + 45°C (-4°F to +113°F) as standard Storage: -20°C to + 50°C (-4°F to +122°F) (extended range available)
Supply Voltage	110/240Vac, 24Vdc or 18-28Vdc
Power Consumption	Conditioning Unit: 110/240Vac Max. 80 Watts, Typical 5-10 Watts Optional cabinet heater 110/240Vac GasPT Sensors: Nominal Operation 6.8 Vdc 700mA 5 Watts
GasPT Certification	GasPT Safety Interfaces - 10 ATEX 0157 Ex II(1)G [Ex ia Ga] IIB (-20°C < Ta < +50°C) IECEX BAS 10.0084 Ex ia Ga IIB (-20°C < Ta < +50°C) GasPT Main Sensor Unit - 10 ATEX 0176 Ex II(2)G [Ex d ia Gb] IIB T4 (-20°C < Ta < +55°C) IECEX BAS 09.0093 Ex d ia IIB T4 Gb (-20°C < Ta < +50°C) GasPT Auxillary Sensor Unit - 02 ATEX 0139X Eex ia IIB T4 (-40°C < Ta < +70°C) IECEX BAS 12.0008X Ex ia IIB T4 Gb (-40°C < Ta < +70°C) OIML R140 ed. 2007 Class A Instrument (< $\pm 0.5\%$ error on CV) - NMI Type approval certificate TC 8670
VE Conditioning Unit	Ex II 1G ma IIC T4 Ga (-40°C < Ta < +80°C) ATEX Certificate: Baseefa 10 ATEX 0249X IECEX BAS 10.0115X
Communications	RS485 Serial, RS232 Serial, Ethernet TCP/IP Analogue and Digital Input / Output Options
Protocols	MODBUS ASCII or RTU

Patents
GasPT:
UK - GB 1047934
USA - US 6442996

Probe:
UK - GB 2433122
USA - US 8424396

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TDS 007 Issue 2

