

BREAKING NEWS

GasPT 2 + ECI:

The new standard for Natural Gas Quality monitoring

A new technology is available to monitor the quality of Natural Gas without the need of Carrier gas or routinely calibration.

Produced by Orbital UK (subsidiary of CUI Global, Inc.), the new Quality Analyzer model **GasPT 2** guarantees an extremely reliable measurement of the main characteristics of Natural Gas with an incredibly fast response time.

Combining thermal-conductivity speed of sound chamber and IR micro sensors the analyzer GasPT2 provides not only the Calorific value of the gas, but also density, CO₂ content, Specific Gravity and Compressibility factor.

Certified Class A in accordance to the OIML R-140 (International Organization of Legal Metrology), GasPT2 has been tested by major gas companies in Europe for years to guarantee reliability and performances passing years with no need of calibration.

With less than 10 second response time, GasPT2 can be applied not only on custody transfer application, but also turbines application or on critical furnace applications where actual temperature shall be defined even before the gas enter the burner (glass, ceramic, etc).

Main features are :

- Compact design to reduce infra-structure demands.
- Low cost yet high accuracy and quality of measurement.
- Unmatched high speed real time measurement.
- NO maintenance, NO on-site calibration, NO carrier gases.
- Low installation costs and negligible utility requirements.
- Compatible with global natural gas mixtures.
- Low maintenance by non-specialist staff.



The use of the **Enhanced Communication Interface (ECI)** produced by Socrate spa allows to operate on the analyzer locally thanks to its keyboard and four-line display, and to distribute the measurement to multiple reading devices as flow computers, DCS or modems for remote monitoring. A TCP/IP fast Ethernet connection provides a useful web server interface for diagnostics and remote control.

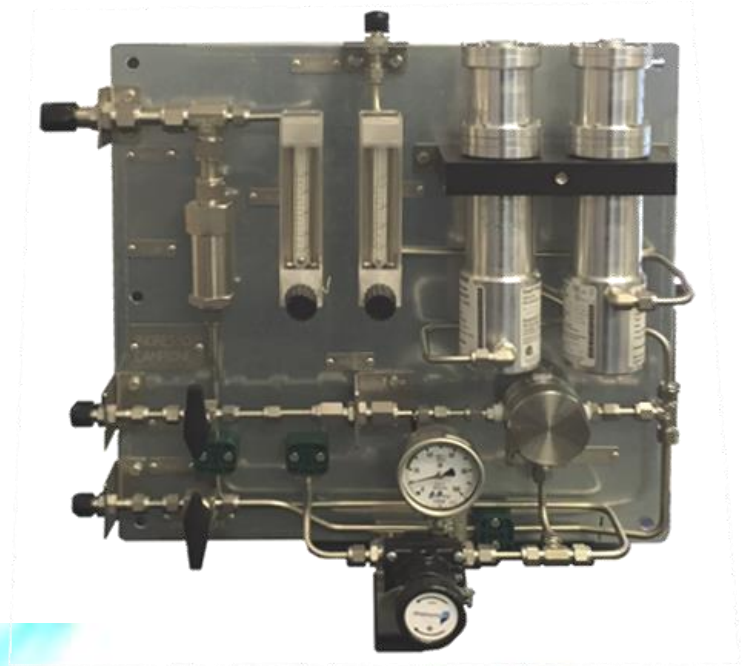
Through its micro USB port, it is possible to download log files or update firmware version.

ECI is provided inside an IP65 enclosure.

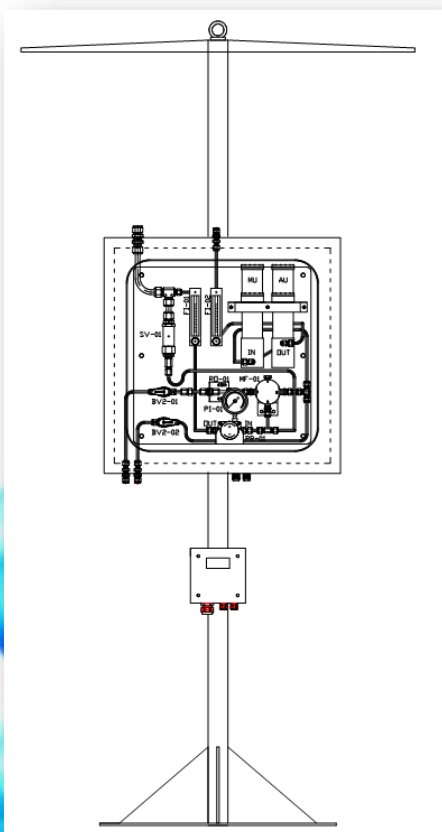
*Turn Key job:
From pipeline to energy calculation*

Socrate spa and Orbital UK cooperates to provide to the market a complete assembly including sampling system capable to operate at any process pressure guaranteeing fast response time in accordance to OIML R140 section 6.4.5.

The solution protect from any risk of condensate or particulate that could affect the measurement.

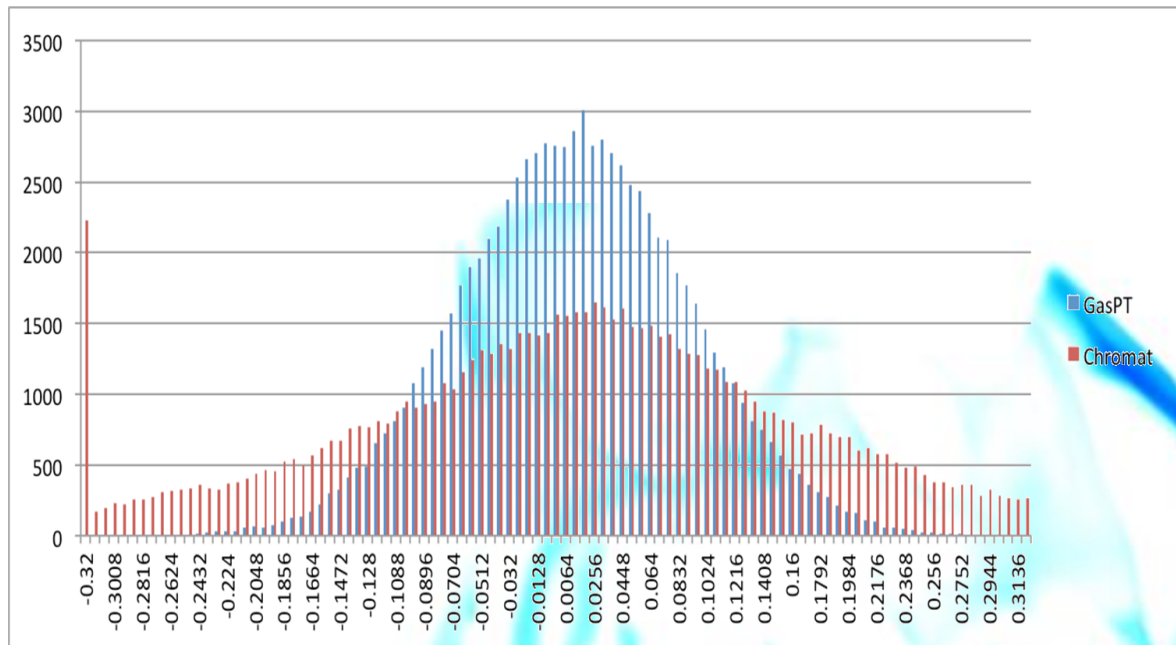
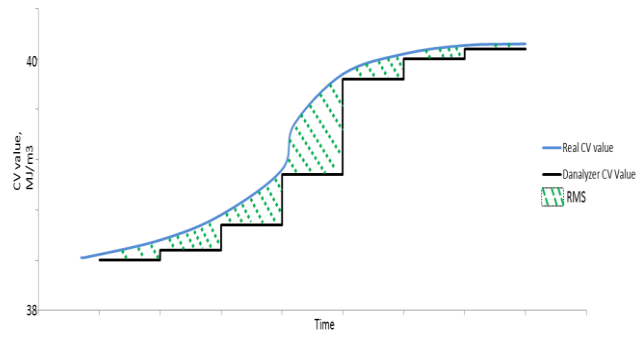
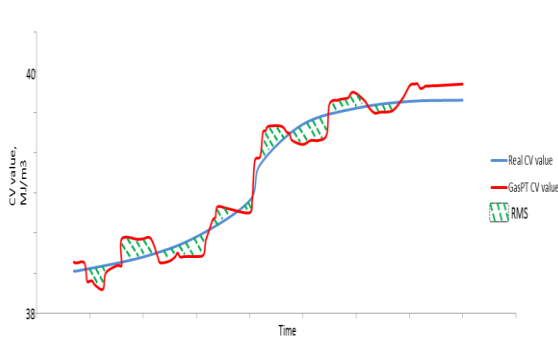


Free standing structure allows installation in open areas as close as possible to tap point. This reduce the transport time improving the energy determination



Fast response time = less uncertainty

Standard Gas chromatographic methods provide minimum 5 minutes response time losing the monitoring of the actual gas fluctuation between the two injection. Even if the punctual accuracy of the GC can be better than GasPT2, the total uncertainty of the GC is affected by the time interval for the properties determination.



OIML R 140: 2007 (E)
 Measuring Systems for Gaseous Fuel
 Section 7.4.1 Time interval for determination of CV:

In principle, the energy to be determined should be the sum of the instantaneous energies delivered. However, in practice, this is not possible and it is acceptable not to associate the instantaneous calorific value to the instantaneous corresponding volume at base conditions or mass if the stability of the CV during the time interval of determination of the representative CV is considered as a component of uncertainty.

Orbital GasPT2

Dimensions	190 mm (7.5") height x 60 mm (2.4") diameter – each unit		
Weight	1.6kg (3.5lbs) – weight for the pair		
Maximum Inlet Pressure	0.3 Barg (30 Kpa / 4.3 Psig)		
Analysis Time	Instrument Update < 2 secs		
Accuracy	Error on CV and Wobbe measured value as standard: Better than $\pm 0.5\%$.		
Repeatability	CV and Wobbe $\pm 0.04\text{MJ/m}^3$ (1.07Btu/ft ³) at ambient temperature		
Temperature Range	Storage and operation: -10°C to +50°C		
Power Consumption	Nominal Operation 6.8 Vdc, 700mA, 5 Watts		
Certification	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)		
Measured properties	Superior Calorifico Value (SCV) Inferior Calorifico Value (IVC) Wobbe Index (WI) Specific Gravity (SG) Density (D) Carbon Dioxide (CO ₂) Nitrogen (N ₂) Equivalent Methane (C1*) Equivalent Ethane (C2*) Equivalent Propane (C3*)	Composition accepted	CH ₄ : 50 - 100% C ₂ H ₆ : 0 – 15% C ₃ H ₈ : 0 – 7% iso-C ₄ H ₁₀ : 0 – 1% n-C ₄ H ₁₀ : 0 – 1% iso- C ₅ H ₁₂ : 0 – 0.5% n-C ₅ H ₁₂ : 0 – 0.5% N ₂ : 0 – 35% C ₆ + total: 0 – 0.5% CO ₂ : 0 – 5% H ₂ S: <10ppm He: <0.5% O ₂ + H ₂ : tracce H ₂ O: non-condensata

Socrate ECI.

Dimensions	273 mm height X 228 mm width X 145 mm depth
Weight	4.7 Kg
Temperature range	-20 + 50°C
Power consumption	24Vdc 300mA including GasPT (powered by ECI)
Certification	Safe area (includes barriers for GasPT) 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)
Communication	N°3 RS 485 bidirectional N°1 TCP/IP Fast Ethernet N°1 USB service port N°1 RS 485 for GasPT connection N°1 Keyboard and 4 lines display N°2 Digital output for status or over range

Sampling System

Dimensions	450 mm height X 450 mm width X 150 mm depth
Weight	7 Kg
Connections	Inlet ¼" OD Analyzer vent ¼" OD Fast loop vent ½"OD
Inlet pressure	From 1.5 barg to 70 barg, with correct orifice selection
Outlet pressure	Atmospheric
Panel material	Galvanized steel (other on request)
Wetted parts	SS316-SS316L

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ISO 9001

ISO 14001

BS OHSAS 18001

ISO 50001