



LPG analyser with Sample Securitiser

PG510



- For liquefied gases
- Assures sample integrity; high accuracy and precision
- Safe and reliable LPG sampling - fully compliant with PED 2014/68/EU.
- ASTM D4424, D7423, IP 405, ISO 7941 UOP 960

Get ready for tomorrow's analytics

LPG analyser with Sample Securitiser

The GAS LPG analyser with the Sample Securitiser is the customised solution for determination of composition and impurities in liquefied petroleum gases such as hydrocarbons. The sample is injected as a liquid using a Liquid Sampling Valve (LSV) and the Sample Securitiser.

Principle of operation

Diagram 1 shows the basic setup for the injection of a liquefied petroleum gas (LPG) sample in the liquid state. The sample cylinder is pressurised between 7 and 20 bar (depending on the sample type), and a dedicated LPG pressure regulator controls the pressure at the outlet of the Liquid Sampling Valve (LSV). In this way, the liquid state of the sample within the valve is maintained, which is essential for correct sample injection. The injection volume is typically 0.2–2 µL of liquefied sample. This setup ensures accurate quantitative results.

Figure 3 demonstrates the excellent repeatability of successive injections of a butane/iso-butane sample.

Liquid injection of LPG samples is preferred over gas-phase injection for accurate analysis of heavier components such as C₆–C₁₀ hydrocarbons. For lower-boiling components (C₁–C₅), an LPG analyser equipped with a Gas Sampling Valve (GSV) and vaporiser is adequate.

The Sample Securitiser complies with high pressure regulation PED 2014/68/EU

Specification

- Thermo Trace GC1600 with Liquid Sampling Valve (LSV), liquid sample injector (SSL) and Flame Ionisation Detector (FID)
- Sample Securitiser
- Capillary column
- Chromeleon chromatography data system
- Runtime: 13 minutes, depending on sample and separation
- Minimum detectability: 1 ppm
- Repeatability: < 1 %

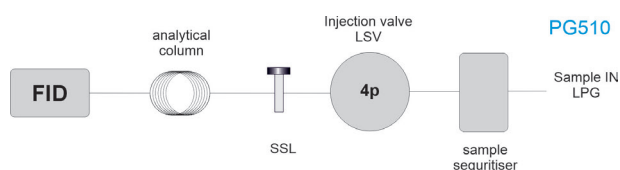


Figure 1 LPG analyser using LSV and Sample Securitiser

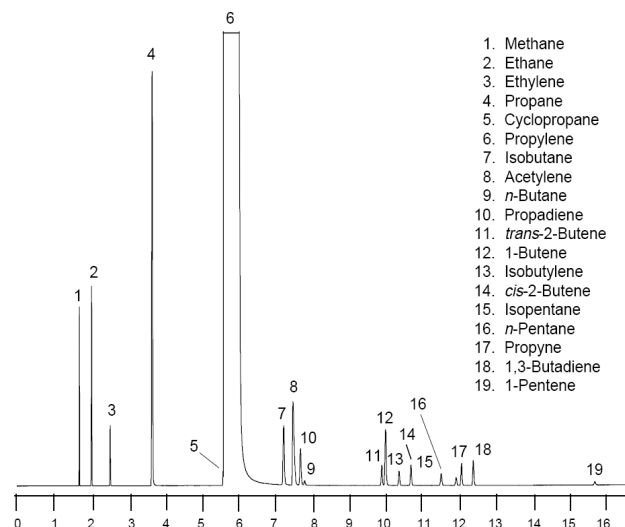


Figure 2 Impurities in Propylene

TRACE GC-FID Instrument Name	I-Butane Area	Butane Area
Trace GC Valve Inj	75405191.00	112744059.00
Trace GC Valve Inj	74606676.00	111717664.00
Trace GC Valve Inj	74925955.00	111509427.00
Trace GC Valve Inj	75377429.00	112744895.00
Trace GC Valve Inj	75092654.00	112570174.00
Trace GC Valve Inj	73793171.00	110533659.00
Trace GC Valve Inj	74145739.00	110950372.00
Trace GC Valve Inj	74078879.00	110862094.00
Trace GC Valve Inj	74135522.00	111265145.00

Min:	73793171.00	110533659.00
Max:	75405191.00	112744895.00
Mean:	74617912.89	111655276.56
Std Dev:	606575.71	849350.84
%RSD:	0.81	0.76

Figure 3 Repeatability of the LPG analyser using LSV and Sample Securitiser

Results

Figure 2 and 3 show the chromatogram and the repeatability data of the LPG analyser.

Ordering information	PG51X - ABCDE			
code X	0	1	2	3
GC model, power	1600, 230V	1610, 230V	1600, 115V	1610, 115V

For selecting options ABCDE (e.g. valve type and passivation, pump and vacuum sampling, rotameter and sample connections, pressure and moisture sensors, hydrogen sensor for safety shut-off, power plug type and more), [see the options table in the order guide.](#)

About GAS

Global Analyser Solutions provides GC & GC-MS solutions for Energy, Refinery, Chemical and Environmental markets. Our analysers address a broad spectrum of measuring requirements with high precision and reliability. Please reach out for more information on our website. www.gassite.com