Global Analyser Solutions

Oxygenates analyser EN13132

PF410

- Organic oxygenate compounds and total organically bound oxygen content
- Modular iConnect injector and detector
- High uptime

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PF410v2

Oxygenated components - EN13132

Oxygenated components such as ethers and alcohols are commonly used as fuel additives to reduce engine knocking and increase a fuel's octane rating. These anti-knock agents are specified and regulated to maintain acceptable commercial petrol quality. Their analysis is carried out using standardised procedures, such as those described in EN13132.

Principle of operation

The system uses two narrow-bore capillary columns in a heart-cut configuration for selective analysis of oxygenated compounds. The sample is first separated on the primary column (TCEP), and specific fractions of interest are diverted as heart-cuts.
A Deans switch redirects these fractions into the secondary column (Rtx-1) with a different stationary phase, enhancing separation from co-eluting hydrocarbons. Only selected fractions enter the second column, preserving peak shape and avoiding overload. Multiple heart-cuts can be performed in a single run, capturing several analyte groups. Orthogonal separation mechanisms improve resolution and confidence in component identification. Narrow-bore columns maintain efficiency, minimise band broadening, and allow reproducible, high-selectivity analysis.

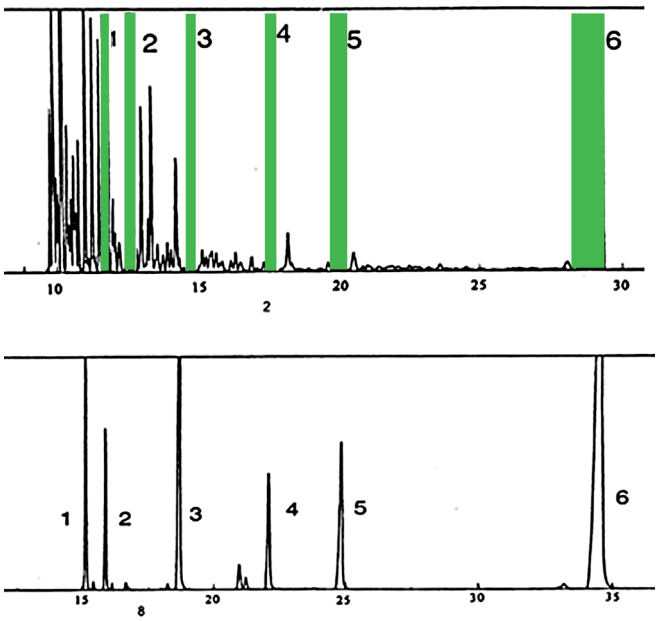

Figure 2 Six selected fractions (green windows, upper chromatogram using FID 1) containing oxygenated components enter the second column (FID 2; lower chromatogram) resulting in improved resolution for oxygenated components.

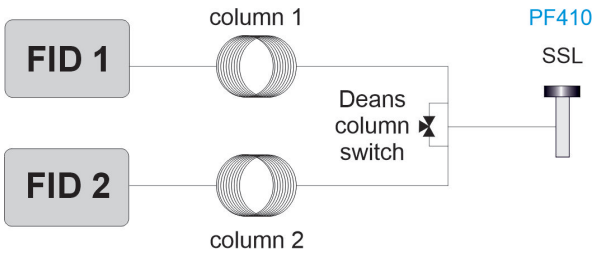

Figure 1 Diagram EN13132 analyser

Instrument specification

- Thermo Trace GC1600 with iConnect SSL (Split-splitless injector), two capillary columns (TCEP and Rtx-1) and two FIDs
- Deans heart-cut column switch
- Runtime 35 minutes

Ordering information PF41X - ABCDE				
code X	0	1	2	3
GC model, power	1600, 230V	1610, 230V	1600, 115V	1610, 115V

For the selection of options (e.g. GC oven cryo valves, 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