Global Analyser Solutions

High Purity Analyser

CG110 | CG125

- Low level impurities in bulk gases
- Limit of detection: < 10 ppb
- ASTM D2504, D2505
- Diaphragm valves with internal purge option

Get ready for ***tomorrow's analytics***

High Purity Analyser

Analysis of impurities in bulk gases is of prime importance for product quality. The GAS High Purity Analyser (HPA) is the standard tool for defining the exact specification of bulk gases in accordance with ASTM D2504, D2505.

Instrumentation

The trace gas analyser is available on Thermo Trace GC 1600 or CompactGC$^{4.0}$, equipped with a Pulsed Discharge Detector (PDD/PDHID), one purged diaphragm valve, and a separation column suitable for the required components.
For handling the bulk component, optional features are available, including backflush, heart-cut, and trapping options. Please contact us for further information.

Figure 1 High Purity Analyser

Specification

- Thermo Trace GC1600 or CompactGC$^{4.0}$ with one diaphragm gas switching valve and Pulsed Discharge Detector (PDD)
- one capillary or packed column
- Chromeleon chromatography data system
- Runtime: depending on required components
- Minimum detectability: see table
- Repeatability: < 1 %

Results

Figure 2 shows an example chromatogram; figure 3 displays the limit of detection (3*s/n), while figure 4 reports repeatability.

H_2	< 20 ppb
O_2	< 10 ppb
N_2	< 10 ppb
CH_4	< 10 ppb
CO	< 20 ppb
CO_2	< 10 ppb

Figure 3 Limit of detection, based on 3* s/n for each component.

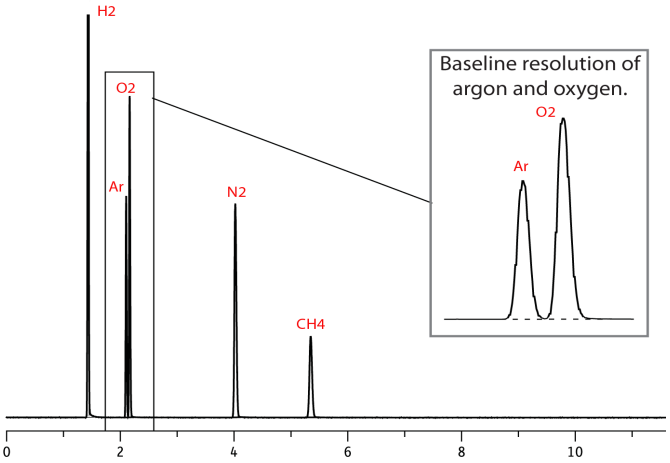

Figure 2 Example chromatogram HPA, including argon/oxygen separation

Inj. No.	Injection Name / Selected Peak:	Area pA*min BackDetector Hydrogen	Oxygen/Argon	Nitrogen	Methane	Carbon monoxide
76	HP mix repeatability	19.1419	128.0336	52.5880	137.3778	66.9799
77	HP mix repeatability	19.0546	127.7394	52.2930	137.8404	66.8278
78	HP mix repeatability	19.1606	127.8858	52.2376	138.1658	66.8532
79	HP mix repeatability	19.2118	128.1375	52.3762	138.6659	67.4800
80	HP mix repeatability	19.2232	128.5649	52.1210	138.9492	67.4995
81	HP mix repeatability	19.2887	128.2764	52.2102	138.5774	67.0324
82	HP mix repeatability	19.2745	128.1268	52.3552	139.0833	67.7506
83	HP mix repeatability	19.3573	128.4626	52.1678	138.3944	67.1328
84	HP mix repeatability	19.3072	128.4414	52.3882	138.6392	66.7665
85	*HP mix repeatability*	*19.2289*	*128.3447*	*52.2726*	*138.4434*	*67.1574*
Maximum		19.3573	128.5649	52.5880	139.0833	67.7506
Average		**19.2249**	**128.2013**	**52.3010**	**138.4137**	**67.1480**
Minimum		19.0546	127.7394	52.1210	137.3778	66.7665
Standard Deviation		0.0889	0.2656	0.1341	0.5100	0.3289
Relative Standard Deviation		**0.46%**	**0.21%**	**0.26%**	**0.37%**	**0.49%**

Figure 4 Repeatability

Ordering information	CG11X - ABCDE HPA on Trace GC 1600 CG125 - ABCDE HPA on CompactGC$^{4.0}$			
code X	0	1	2	3

For the selection of 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