

Application Data Sheet

No.66

System Gas Chromatograph

Composition of H₂ – C₂H₂ Analysis GC-2014HC2

A simple and efficient method based on the technique of valve switching is developed for the analysis of H₂, Ar, O₂, CO, CH₄, CO₂ and C₂. A total of 3 valves and 6 columns are used in this GC system. Sample is introduced into one sample loop for determination. H₂ is detected by TCD-1. The other permanent gases and CH₄ are directed into column-2 through Valve 2. Ar, O₂, N₂, CH₄ and CO flow through column-3(MS-13X), are separated and detected by TCD-2. CO₂ and the light hydrocarbons are directed on to a porous polymer column for separation and detected by TCD 2.

Analyzer Information

System Configuration:

Three valves / six packed columns with two TCD detectors

Sample Information:

H₂, O₂, N₂, Ar, CO, CO₂, C₂H₄, C₂H₆, C₂H₂

Methods met:

ASTM-D1945

Concentration Range:

No.	Name of Compound	Concentration Range		Detector
		Low Conc.	High Conc.	
1	H ₂	0.05%	100%	TCD-1
2	Ar+O ₂	0.05%	30%	TCD-2
3	N ₂	0.05%	100%	TCD-2
4	CH ₄	0.05%	90%	TCD-2
5	CO	0.05%	50%	TCD-2
6	CO ₂	0.05%	60%	TCD-2
7	C ₂ H ₆	0.05%	50%	TCD-2
8	C ₂ H ₄	0.05%	50%	TCD-2
9	C ₂ H ₂	0.05%	10%	TCD-2

Detection limits may vary depending on the sample. Please contact us for more consultation.

System Features

- Versatile software easy GC system operation
- Dual TCD channels
- Good repeatability

Typical Chromatograms

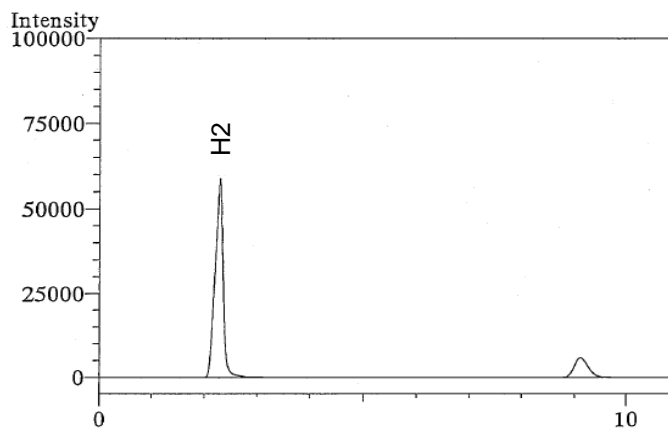


Fig. 1 Chromatogram of TCD-1

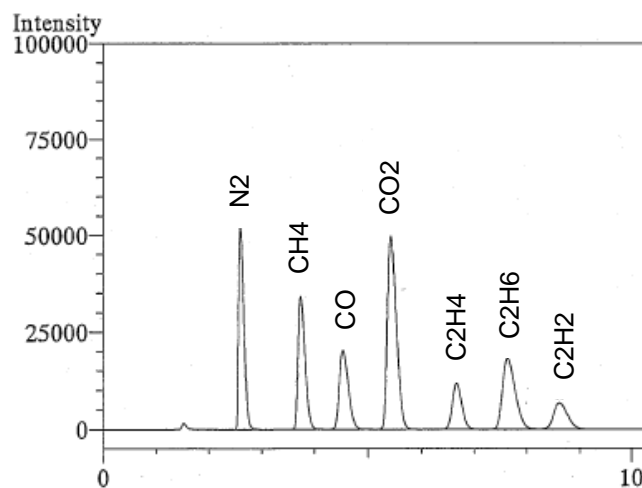


Fig. 2 Chromatogram of TCD-2