

Micro GC

Micro-machining 가 TCD (Thermal Conductivity  
 Detector) Injector Micro Gas Chromatograph (Micro GC)  
 GC 10 1 . . .  
 GC . . . .  
 1ppm 100% . . ,

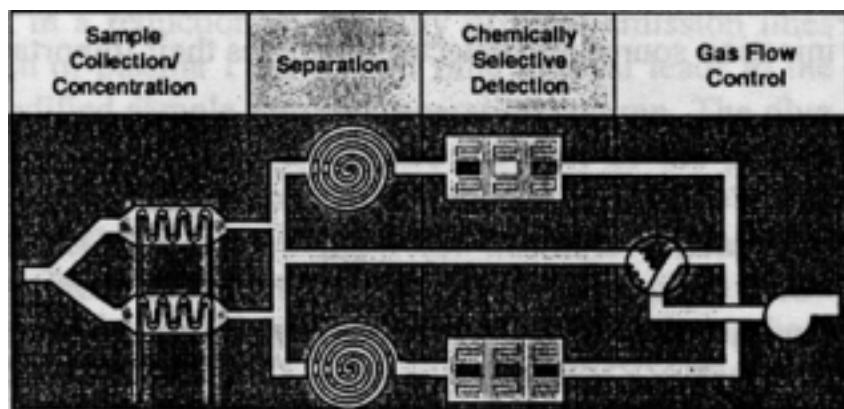


Fig. 1

The diagram illustrates a microfluidic setup for sample collection and concentration. It features a central vertical flow channel. At the top right, an 'Inlet' leads into the channel. Below the inlet, a 'Glass Chip' is shown. Further down the channel, there is a 'Separation' section. Above the separation section, an 'Injector' is positioned. At the very bottom of the channel, a 'pump' is indicated. On the left side of the channel, there is a 'Sample Collection' section, which includes a 'Diffusion' zone. The entire assembly is labeled as being made from 'machining'.

Pattern	Gas
Flow	Control
Micro GC	Detector Micro TCD
constant 0.5msec	,
Response time	가
Separation	Column
	GC



Fig. 2

Fig. 2 Micro GC



Fig. 3

Micro-machining

Injector

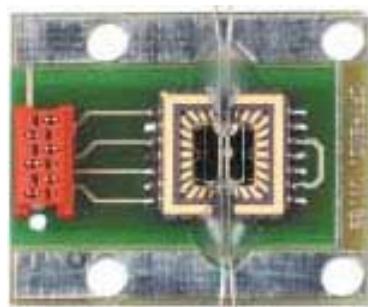


Fig. 4

Fig. 4 Separation                                  200nl                                  Micro Thermal  
Conductivity Detector (Micro TCD)

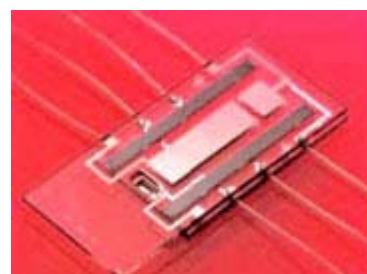


Fig. 5

Fig. 5 Detection level                                  Micro Differential Mobility  
Detector (Micro DMD) Set

- 가 , Micro GC

- Micro GC    Compact

Micro GC      Lab-quality gas

Lab    가

, , Column, ,

- Micro GC

가

15

가

- 가 (Refinery Gas)
- 가 (Fuel cell)
- 가 (Industrial Gases)
- 가 (Natural Gas)

가              가

Column

Micro GC

GC

Micro GC

가              GC

Column

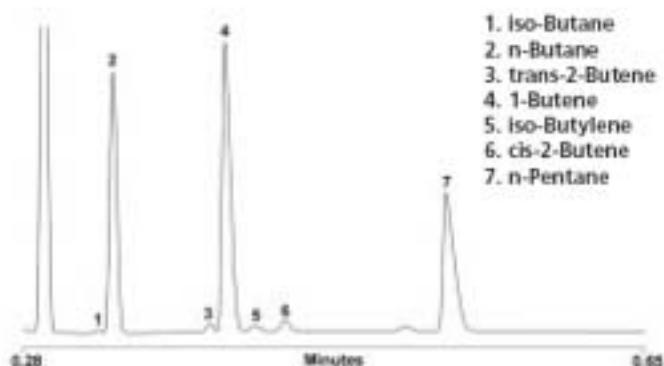
가              가

가      Micro GC

가

## 가 (Refinery Gas)

4-Channel System  
Channel A:  $\text{Al}_2\text{O}_3/\text{KCl}$ -PLOT



4 H<sub>2</sub>, N<sub>2</sub>, CO, CO<sub>2</sub>가

가 (Refinery gas)

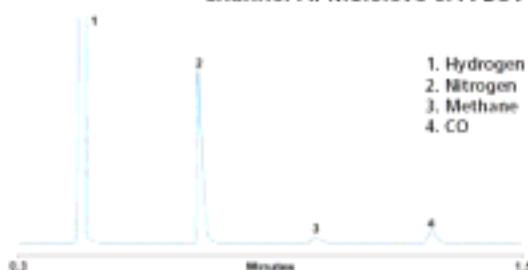
4

GC

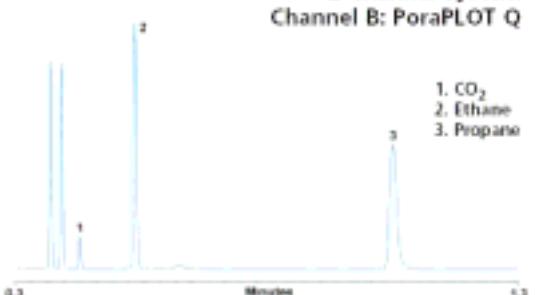
A

## (Fuel cell)

2-Channel System  
Channel A: MolSieve 5A PLOT



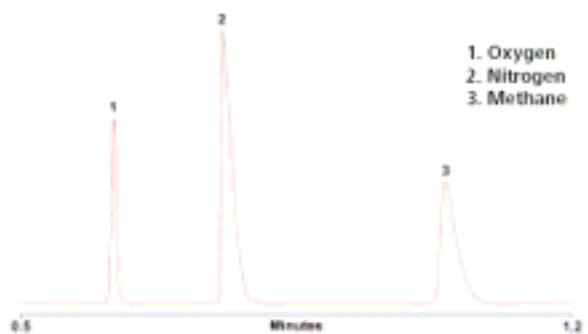
2-Channel System  
Channel B: PoraPLOT Q



2 Micro-GC

## 가 (Industrial Gases)

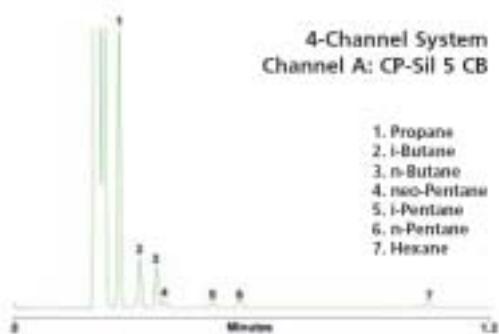
Single-Channel System  
Channel A: MolSieve 5A PLOT



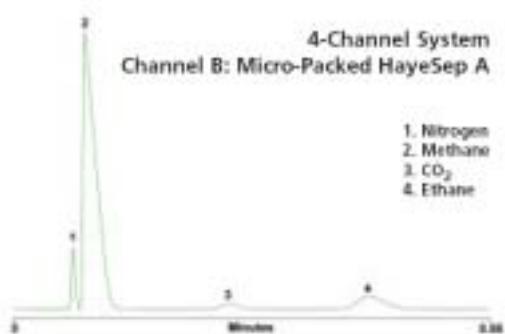
, , 가 가

가

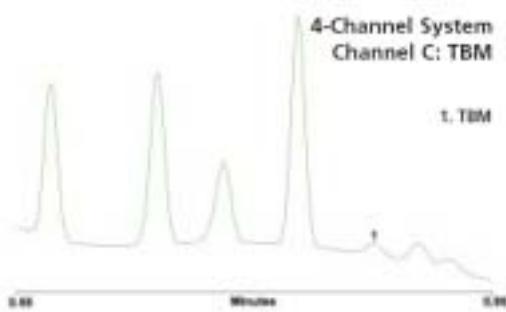
4-Channel System  
Channel A: CP-Sil 5 CB



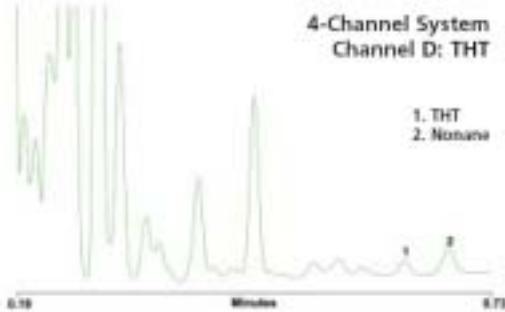
4-Channel System  
Channel B: Micro-Packed HayeSep A



4-Channel System  
Channel C: TBM



4-Channel System  
Channel D: THT



4

90

가 (Natural

Gas) 가