V1.0
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Hydrogen Removal System

Improving Trace Gas Analysis

AGC 75-852

The AGC Hydrogen Removal System solves the problem in trace analysis of Hydrogen. It is an alternative to using very long columns or heartcut chromatography which can result in slower analysis times. With Hydrogen, the best way to find the impurities is simply to remove the bulk gas, leaving only the impurities behind.

The AGC 75-852 is therefore designed to remove Hydrogen from a Sample volume injected into a Gas Chromatograph column.

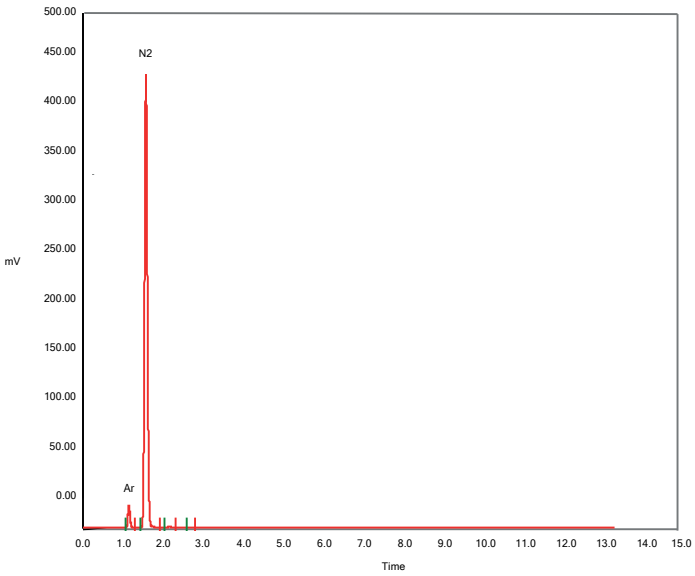
The separator is fitted with a Palladium membrane inside a temperature controlled oven because Hydrogen will diffuse selectively through a Palladium membrane. The outlet of a gas sample valve (GSV) is connected to the INLET connection (with VCR fittings/gaskets) and the OUTLET is connected to the column. The operating temperature is set above the boiling point of water to prevent clogging of the pores (the temperature is preset to 300°C).

Hydrogen breakthrough may occur when carbon builds up inside the membrane. This carbon is removed by increasing the temperature to 300°C and passing Hydrocarbon free air through the system. Simply, rotating the valve to the OFF position for one hour will burn off any deposits.

To prevent air from being injected into the Analytical columns, the user can temporarily purge the system with Helium before switching the valve ON. Adjusting the temperature is a simplified with a user-friendly interface. Both Oxygen and Carbon Monoxide are also removed from the sample when it passed through the separator.

Specifications

Operating Temperature	300°C
Maximum Temperature	300°C
Operating Pressure	Max 10 BAR (150 psi)
Carrier Flow Rate	30-50 mL/min
Fittings	1/8" VCR face seal
Air Flow	300 mL/min
Separator	Palladium Membrane
Gases Removed	H_2 , O_2 , CO



	Name	Ret Time (min)	Height (mV)	Area (mVs)	% Total Area	Conc	Units
1	Ar	1.15	21.10	76.23	3.55	5.67	ppm
2	N2	1.57	432.52	2067.60	96.27	30.87	ppm
3		2.15	0.42	3.08	0.14	0.00	ppm
4		2.73	0.05	0.70	0.03	0.00	ppm

To discuss the use of the Hydrogen Removal System for your application or for further information please contact:

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