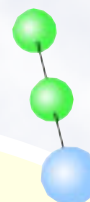
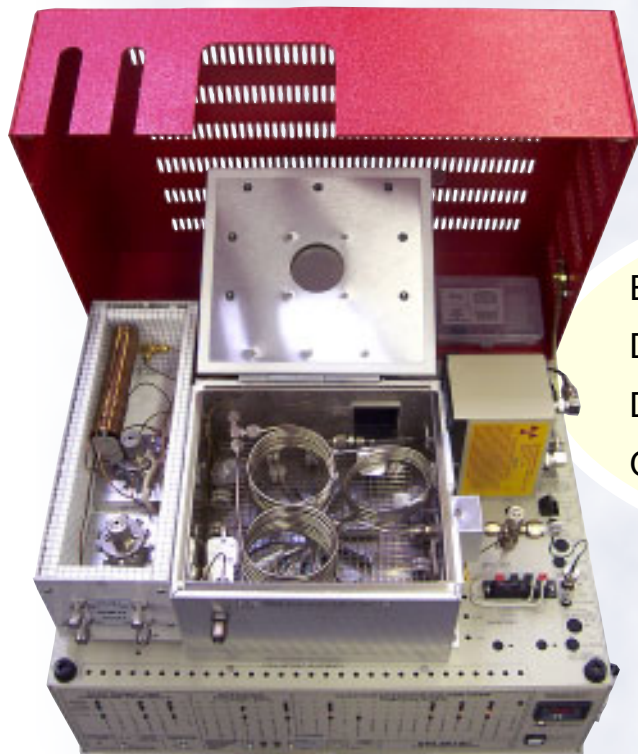
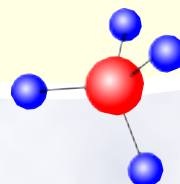




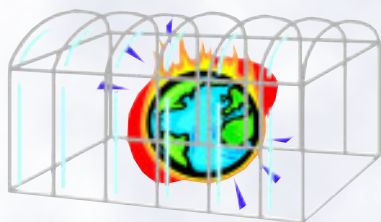
Greenhouse Gas Detection and Analysis



ECD and FID-Methanizer detectors
Dual packed columns with pre-column
Dual 10-port gas sampling valves & 5mL sample loop
On-column injector



THE GREENHOUSE EFFECT



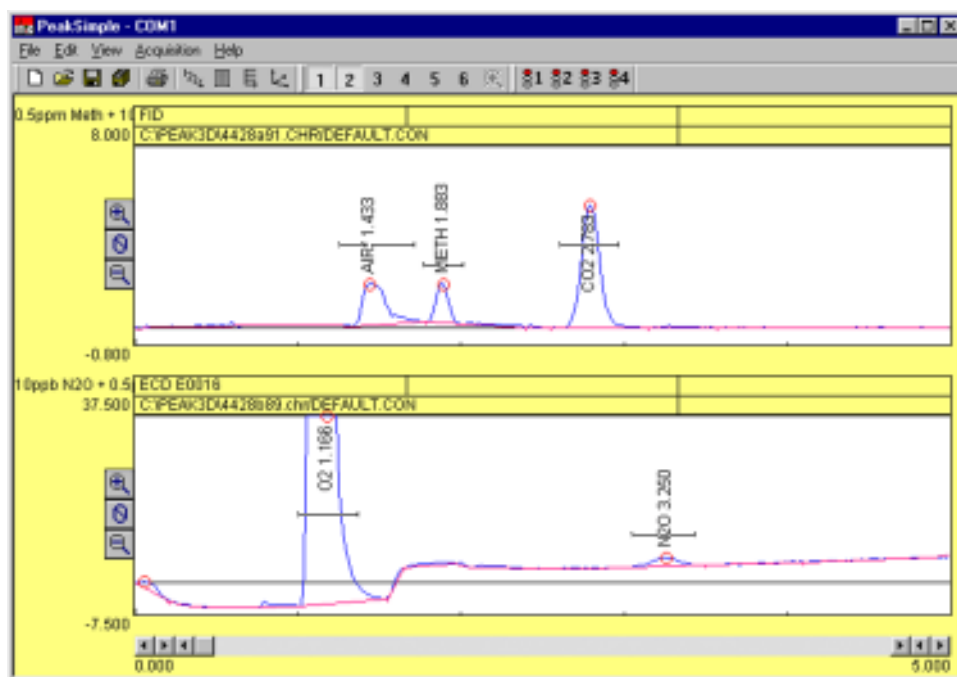
Greenhouse gases naturally present in the atmosphere—mostly water vapor, carbon dioxide, and ozone—absorb thermal infrared radiation emitted by Earth. Warmed by this process, the atmosphere emits infrared radiation in response, a significant proportion of which warms Earth's surface and lower atmosphere. This is the phenomenon known as the greenhouse effect, and the infrared active gases responsible for it are greenhouse gases.

Since the industrial revolution, human activity has contributed significantly to the amount of greenhouse gases present in the atmosphere. The most abundant anthropogenic greenhouse gases are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Carbon dioxide is released into the atmosphere when fossil fuels, coal, solid waste, and wood products are burned, during cement production, and also when land surface cover is changed by humans. Increases in methane are from fossil fuels, rice cultivation, animal husbandry, biomass burning, and landfills. The main anthropogenic sources for nitrous oxide are agriculture, and industrial sources including adipic and nitric acid production. Combustion of solid waste and fossil fuels also contribute to atmospheric N_2O .

Greenhouse Gas Detection and Analysis

CO₂, METHANE, AND N₂O

These two chromatograms show an analysis of 0.5ppm methane + 10ppb N₂O by the SRI GC pictured on the previous page.

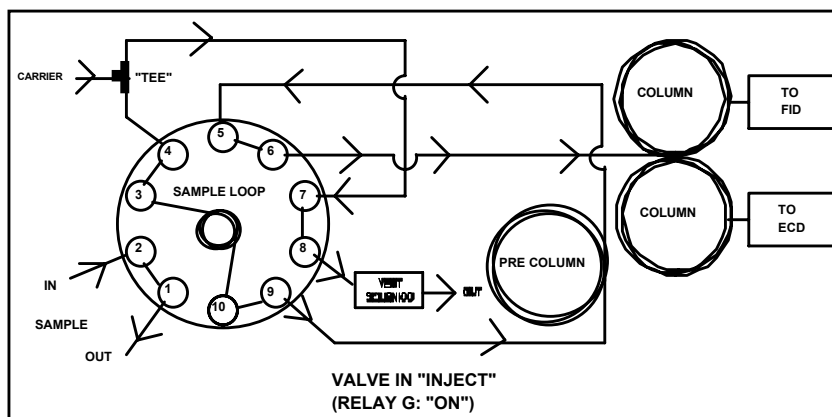
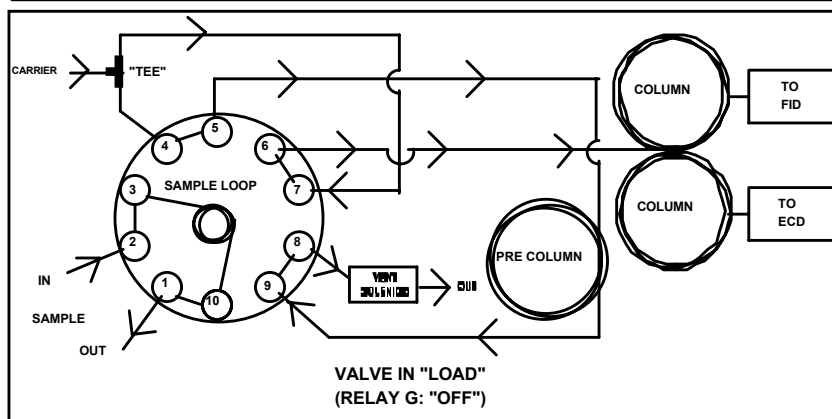


Use an SRI Greenhouse Gas Monitoring GC System for stack or ambient air monitoring; in a plant for atmospheric air analysis; any situation where you need to provide an Emissions Inventory for Clean Air Act compliance or other regulatory requirements. Use Emissions Inventories for auditing, air permit applications, health risk assessments, or other environmental impact studies. Give an accurate, comprehensive, up-to-the-minute accounting of your air pollutant emissions, and pay for no more than you release. Take advantage of EPA compliance incentives and become a self-auditor with your own SRI Greenhouse Gas Monitoring GC System.



10 PORT VALVE WITH BACKFLUSH

EVENT TIME	EVENT	EVENT FUNCTION
0.000	ZERO	ZERO
0.045	A "ON"	CLOSE VENT
0.050	G "ON"	VALVE #1 INJECT
1.500	G "OFF"	VALVE #1 LOAD
1.550	A "OFF"	OPEN VENT



Configuration:

8610 GC w/4 channel Data System

ECD Detector

FID Detector

Methanizer

Air Compressor

10-port Electric Valve

Valve Oven

(2) 3m Porapak Q packed columns

1m Porapak Q Pre-column

5ml Sample Loop