

The CAM 5000: A New Concept in Air Sampling

Concept

The *CDS Analytical Continuous Air Monitoring System (CAM 5000)* is a *CDS Solution* developed in response to customer requests for a flexible unit that would analyze samples of all EPA method types, and also provide the capability for continuous sampling of ambient air. The CAM 5000 is a versatile purge and trap unit for liquid, solid, and gas analysis. It can be used to analyze air samples in diverse containers and can also sample from remote sources by connecting a length of tubing from the CAM 5000 to the source.

Applications

Some of the customer requests that led to the development of the CAM 5000 include: the need for an instrument to sample the volatiles produced from foods and packaging materials during microwave oven operation; to monitor the accumulation of toxic gases produced in ambient air during routine laboratory activities; to be a one-unit instrument in environmental labs that require the flexibility to analyze soil, water, and air samples; to collect headspace from the interior of a commercial disk drive to detect dangerous heat build up before damage occurs. The CAM 5000 is the perfect instrument for all of these applications.

The CAM 5000 may be set to operate continuously, sampling at set intervals indefinitely, when interfaced to an appropriate GC. This provides the ability to have a permanent analytical record of air quality at all times. When used in this mode, the one-step air sampling process eliminates the sample handling required when a sample is first collected onto an adsorbent, then

desorbed onto the trap portion of a purge and trap unit. The CAM 5000 is suitable as an air sampling device for EPA Methods T0-1 to T0-11, T0-13, and T0-14. It can sample air from any EPA-approved source, including sorbent tubes, Tedlar bags, Suma cannisters, Drager tubes, Orba tubes, and air cartridges.

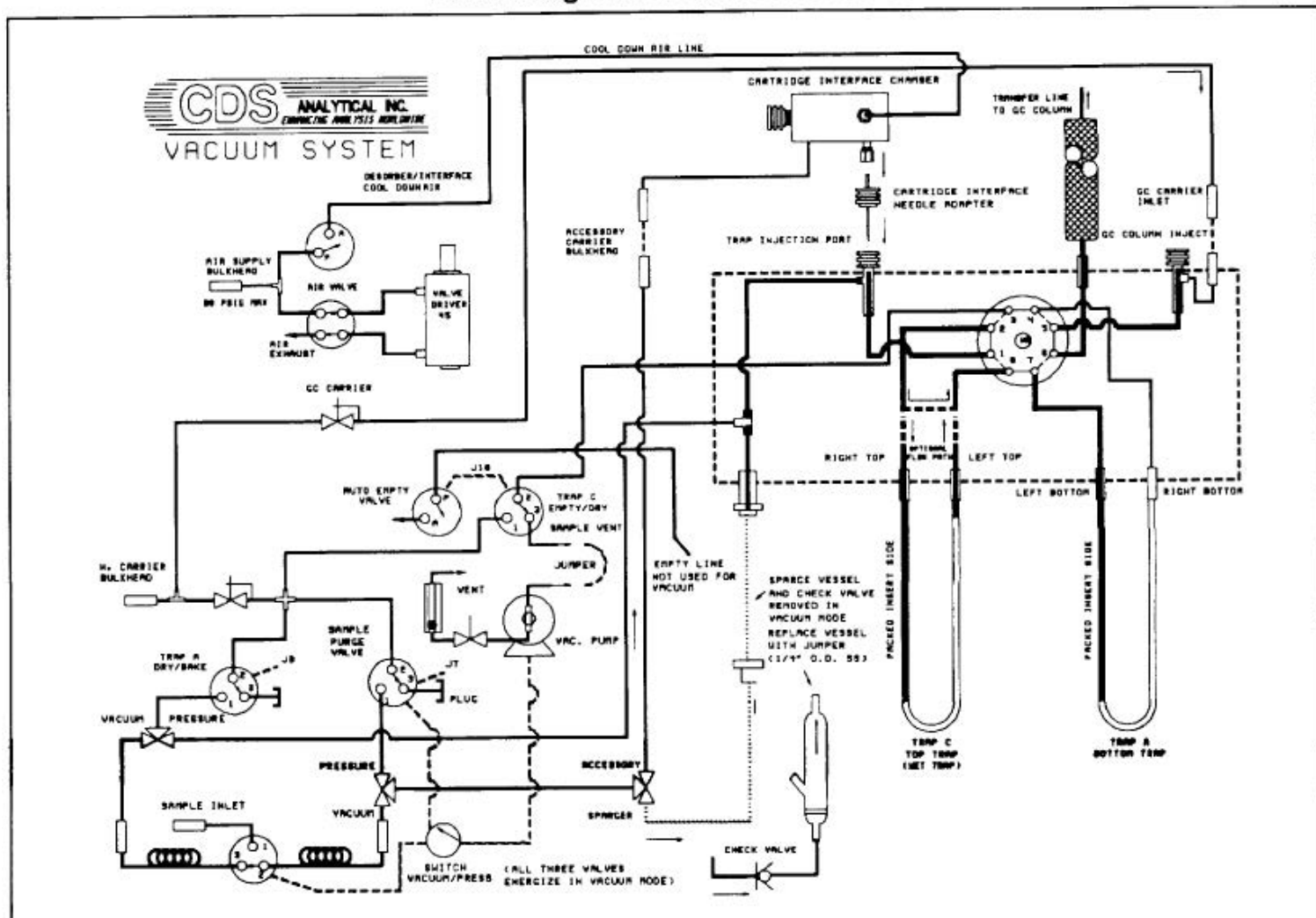
Features

The CAM 5000 consists of a self-contained vacuum pump that is attached to the vent of the PeakMaster trap, and is used to pull a sample of air directly onto the trap packing. The pump is available completely built into the cabinet of the PeakMaster, or as a stand-alone module for retrofitting to existing PeakMasters. The flow rate of the air onto the trap is adjustable, as is the sampling time. To operate the unit, press the Start key, which automatically turns the vacuum pump on for the set time, then shuts it off and proceeds with the next step of the analysis. The trap may be dried before desorption to the GC, and is baked out after the desorption time is complete. The unit is equipped with a rotometer, as recommended in many EPA applications, to allow continuous flow monitoring.

Flexibility

In addition to ambient air sampling, conventional air sampling containers attach easily to the inlet valve of the pump. To convert the CAM 5000 into a conventional purge and trap unit for water or soil analysis, just turn two valves. For even more flexibility in sample preparation, the PeakMaster portion of the CAM 5000 can be equipped with an interface for thermal desorption or pyrolysis.

Flow Diagram of the CAM 5000



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