

ANTECH 7032-L

AUTOMATED LOOP AUTOSAMPLER

Gas phase volatile organic compounds are quantified by GC or GCMS using sample volumes ranging from several hundred milliliters to just a few micro liters depending on the sample concentration. Low cost sampling into small, inert fused silica lined canisters, called "MiniCans" allows sample storage for up to several weeks without loss of VOC's. Automated introduction of MiniCan samples into a GC makes this approach very reproducible while maximizing the level of QA and data reliability.

7032-L Loop Autosampler

The 7032-L Autosampler automates the introduction of up to 21 gas phase samples into a gas chromatograph for quantitative analysis. Fixed volume loops are used to measure and equilibrate sample volumes to atmospheric pressure before injection to the GC. MiniCan sampling containers are typically used to collect the sample in the field using the self contained vacuum to pull 400cc of sample into the fused silica lined interior. The inert inner surface permits sample stability for days or even weeks. Leak tight miniature quick connects maintain a vacuum in the MiniCan for months and allow "tool-free" sampling in the field. The vacuum driven sampling eliminates the need for pumps or electrical power.

Variable Volume Injections

The 7032-L uses an electronic splitter to adjust the actual volume of sample delivered to a GC. Using a single loop, the volume can be split as much as 100:1 allowing a greater range

of sample concentrations to be analyzed without dilution. Variable injection volumes also allow calibration curves to be generated from a single calibrated standard cylinder. Constant internal standards can be added independent of sample or analytical standard volumes.



7032-L

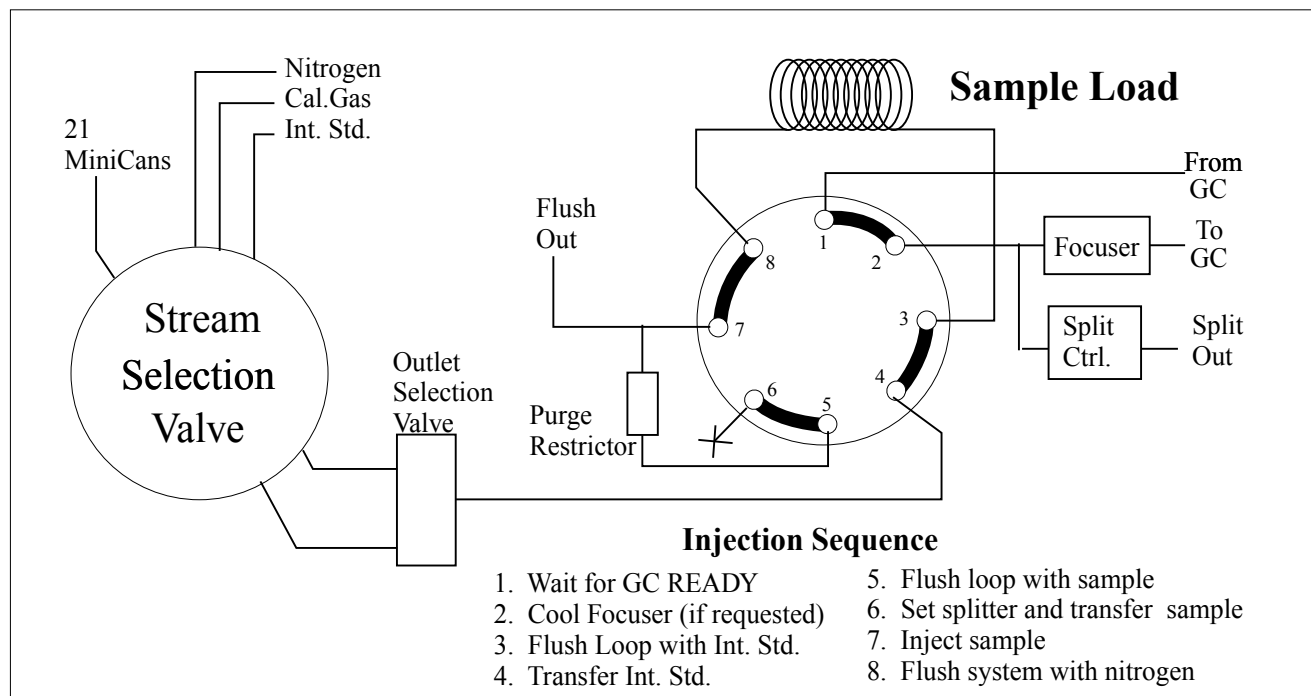
Heated Canister Analysis

Maintaining consistent recoveries of analytes over a wide range of concentrations and boiling points may require sample heating before analysis in some cases. When sampling stack gas or other sources with a high water content, heating can bring condensed water back into the gas phase along with water soluble VOC's. The 7032-L has an external heater option to heat all 21 cans prior to analysis. Heating MiniCans with fused silica linings may show a similar improvement in recoveries to that of heating a glass liner in a GC injector.

Surrogate Spiking

The 7032-L can perform automated pressurization of MiniCans before attachment to one of the 21 position inlets. Two modes support either a targeted final pressure or a dilution factor of 1.5x, 2x, or 3x. By attaching a cylinder containing a surrogate standard to the pressurizing gas inlet, a known amount of surrogate can easily be added to each MiniCan. Quantifying the amount of surrogate recovered provides verification of proper recovery of sample, a feature that is unique to the 7032-L.

7032-L MiniCan Autosampler



Large Volume Preconcentration

The 7032-L is also available without a loop injection valve (Model 7032) for dedicated operation with the 7100 Preconcentrator. Instead of having a maximum injection volume of 5cc, the 7100/7032 preconcentration system allows recovery of 10 - 1000 cc, depending on the initial pressure of the MiniCan. This greatly enhances detection limits, allowing the analysis of compounds in the 1-1000 ppb range. A 7032-L can also be interfaced to an Entech 7100 or 7000 preconcentrator with 9 positions used for low concentration samples and the remaining 12 positions for high concentration loop injection.

Focusing Option

In order to maintain narrow peak width and maximum sensitivity when performing capillary GC analysis, it may be necessary to focus the sample at the head of the column to eliminate band broadening of the more volatile compounds. The 7032-02 focusing option is capable of cooling to -190°C using very little liquid nitrogen during each injection cycle. Heating rates of the focuser upon injection can approach 10,000 deg/min, giving extremely fast release of the sample to a capillary gas chromatograph.

Applications

Industrial Hygiene	Stack Gas
Landfill Gas	Product Offgasing
Environmental Chambers	Breath Analysis
Mobile Laboratories	Indoor Air
Emergency Response Programs	Soil Gas
Petroleum / Petrochemical	Remote Head Space

Part Number	Description
7032-L	21 Position Loop Injection Autosampler
7032	21 Position Autosampler for Operation with 7100 or 7000 Preconcentrator
7032-01	Electronic Splitter
7032-02	Focusing Option
7032-03	7032-L/ Preconcentrator Interface Kit
7032-04	Tedlar Bag Option
29-MC400L	Fused Silica Lined 400cc MiniCan
09-70100	21 MiniCan Heater

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