



ENTECH 7032AQ-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 microliters 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 VOCs. Automated introduction of MiniCan samples into a GC makes this approach very reproducible while maximizing the level of QA and data reliability.

7032A-L Loop Autosampler

The 7032A-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 the 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. This vacuum-driven sampling eliminates the need for pumps or electrical power.

Variable Volume Injections

The 7032A-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.



7032AQ-L

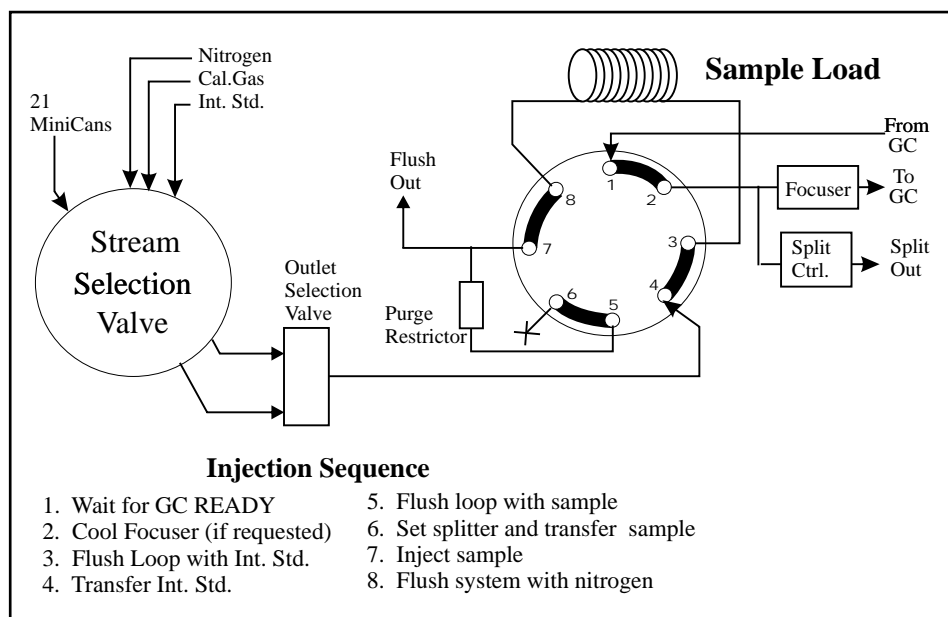
Heated Canister Analysis

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 VOCs. The 7032A-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 7032A-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 7032A-L.

7032AQ-L MiniCan Autosampler



7032AQ-L with 21 MC1400 MiniCan canisters connected using alternating expansions to accommodate the larger 1400cc MiniCans.

Large Volume Preconcentration

The 7032AQ-L is also available without a loop injection valve (Model 7032AQ) for dedicated operation with the 7100A Preconcentrator. Instead of having a maximum injection volume of 5cc, the 7100A/7032A preconcentration system allows recovery of 10 - 1000cc, depending on the initial pressure and volume of the MiniCan. This greatly enhances detection limits, allowing the analysis of compounds in the 0.01-1000 ppb range. A 7032AQ-L can also be interfaced to an Entech 7100A preconcentrator with 9 positions used for low concentration samples and the remaining 12 positions for high concentration loop injection.

Focusing Option

In order to prevent band broadening and maintain maximum sensitivity when performing capillary GC analysis, it may be necessary to focus the sample at the head of the column. 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. This option is not needed when connecting the 7032AQ-L through a 7100A Preconcentrator, as the 7100A has its own cryo-focusing trap.

Applications

- Industrial Hygiene
- Stack Gas
- Landfill Gas
- HRVOC Monitoring
- Environmental Chambers
- Vapor Intrusion
- Mobile Laboratories
- Indoor Air
- Emergency Response Programs
- Soil Gas
- Petroleum/Petrochemical
- Breath Analysis

Part Number	Description
7032AQ-L	21 Position Loop Injection Autosampler
7032AQ	21 Position Autosampler (No Loop Injection Valve)
7032-01	Electronic Splitter
7032-02	Focusing Option
7032-03	Preconcentrator Interface Kit
29-MC600QT2	Silonite Coated 600cc MiniCan
29-MC1400QT	Silonite Coated 1400cc MiniCan
29-BV460A	16oz Bottle-Vac Sampler
29-BV920A	32oz Bottle-Vac Sampler