Nutech 8910

Ambient Air Sample Preconcentrator for VOCs Analysis

The Nutech 8910 preconcentrator is the successor of Nutech's classic model 8900DS. It has the most advanced hardware and software with unique features for the analysis of volatile organic compounds (VOCs) listed in U.S EPA Methods TO-14A and TO-15A. Functionality and longevity were the main goals in the development of Nutech's ambient air preconcentrator.

It is suitable for the ambient air sample preconcentration in VOCs analysis which is widely adopted by environmental monitoring stations, 3rd party testing organizations,

Nutech 8910 Preconcentrator Features

1. Strong Practicability and Wide Application Range

- The 8910 Preconcentrator uses the classical 3-stage module (two cryogenic traps and one cryofocuser). Coupled with a new generation of advanced H2O & CO2 management technology, its preset methods for TO-15, PAMS and sulfide analysis can fully meet the requirements of US EPA methods without any changes or accessories upgrades.
  The 8910 Preconcentrator creates negative pressure for automatic suction and injection of samples, and has an MFC operating range 5-120mL/min with ±2% accuracy.
  The 8910 Preconcentrator has a standard total volume injection range (4-2000 mL). With a quantitative ring injection valve, the minimum injection volume can be as low as 0.2mL, allowing a total volume range to be 4 orders of magnitude.

2. High Sensitivity

- The concentration rate is increased more than 1000X, vastly lowering the

3. High Automatic, Powerful Software

- The software is powerful and easy to operate. The system has the ability to perform automatic leak checking, generate reports, and create alarm errors automatically. The software continuously displays operation status, records processed data, and supports QA/QC report printing.

4. Good Compatibility, Powerful Extended Function

- The 8910 is highly flexible, allowing users to establish a new analytical method according to their application needs. It is compatible with different types of GCs or GC/MSs in the market. It can be used directly with an instrument, or be coupled with an automatic sampler (3610) for multiple sample analyses.

5. Long-term Stable Operation

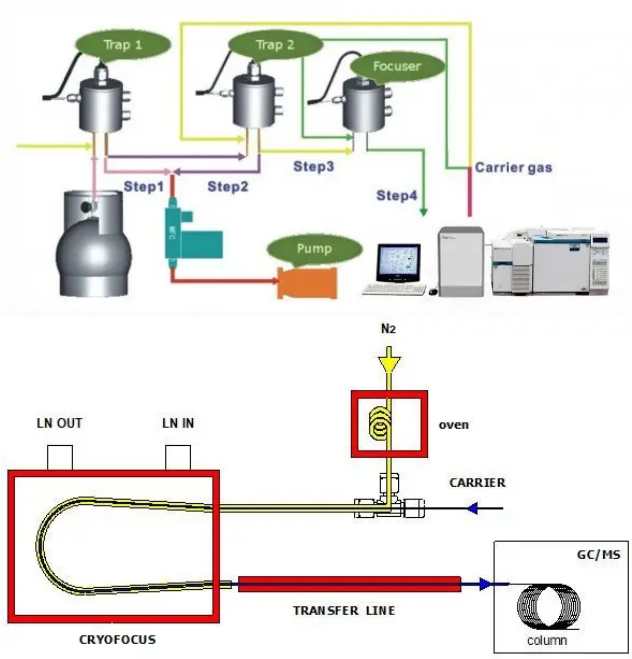
- Internal structure is optimized in a modular design. Isolation of temperature control module, sensitive components, and the external liquid nitrogen valve

- The advanced temperature control keeps the variation under ±2 ℃, assuring stable and accurate analysis.
- The pipeline, valve and other flow path components are inert, durable, and corrosion-resistant. This eliminates unwanted carryover, chemical reactions, minimizes sample contamination, and ensures maximum recovery.

interference, rust on electronic components. The net result is the long-term stable operation of the instrument.

- The small volume trap is designed so that its temperature and liquid nitrogen flow control mode are optimized, keeping liquid nitrogen use down to a minimum.

3-Stages H2O & CO2 Management Technology



1. Control Trap 1 temperature and transfer parameters allow for the partial retention of water within Trap 1 during Trap 1 to Trap 2 transfer.

2. Control Trap 2 material property and temperature to avoid water and CO2 being trapped.

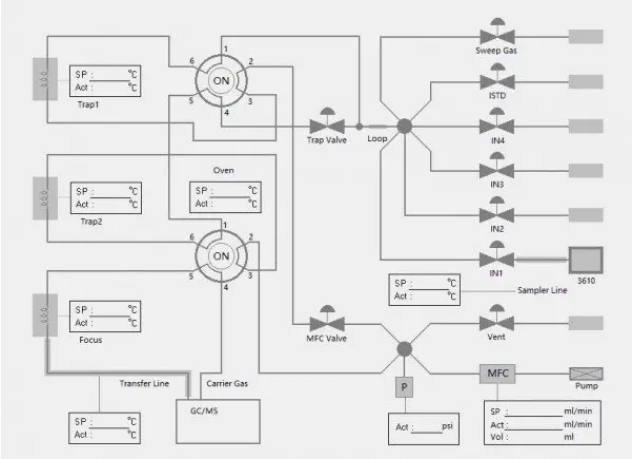
3. Focuser Heating Injection control:

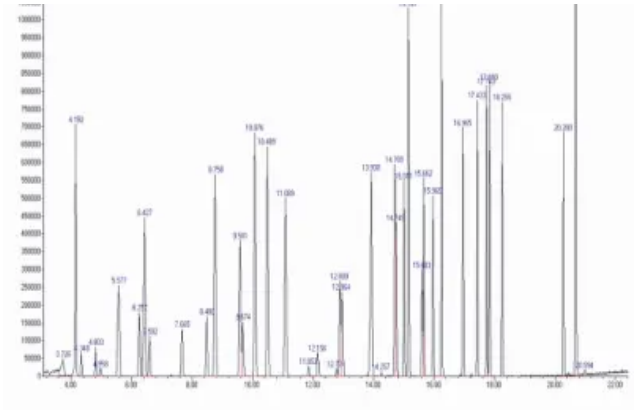
- Heated N2 goes through the outside of the focuser column to generate rapid heating rate (Over 10000℃/min).
- N2 is preheated in the oven.
- Water is partially retained in focuser and can be removed as an optional step at end of GC run.

Nutech 8910 Preconcentrator Technical Data

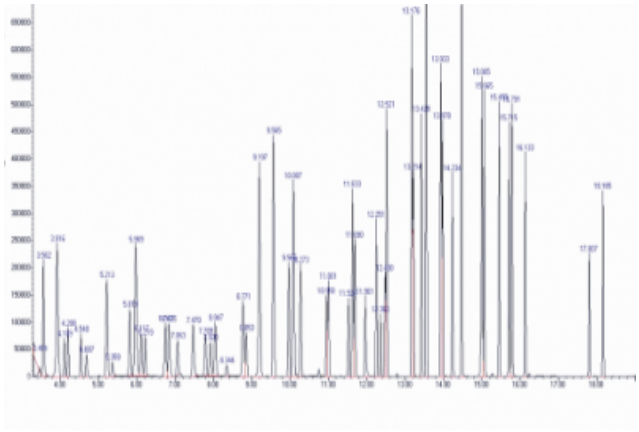
Nutech 8910 Preconcentrator Schematic Diagram

Loading Range	4-2000ml
Concentration Ratio	>1000:1
Temperature Control	±2℃ Accuracy
RSD for Most VOC Compounds with A Sample	≤3%
Heating Rate	10000℃/min
Maximum Power	2 KW
Voltage	110V/60Hz or 220V/50Hz±10%
Cryogenic Trap I Temp (Glass Bead)	-190℃~250℃
Cryogenic Trap II Temp (Tenax Multimedia Trap)	-190℃~250℃
Cryogenic Trap III Temp (Cryofocuser)	-190℃~250℃





U.S EPA Method TO-14



U.S EPA Method TO-15

Nutech Instruments Product Family

Air Lab Sample Prep Products

8910 Preconcentrator

3610 Autosampler

2104 Canister Cleaning System

2203 Precision Static Dilutor

7000 NMHC Analyzer

Air/Gas Sampling Products

2703 Automatic Air Sampling Device

2600ST Multifunctional Automatic Air Sampling System

2600GT Carry-on Automatic Multifunctional Sampling System

Online VOCs Analysis Products

6000-C NMHC Online Analyzer

6000-5D VOCs Online Analyzer

PCGC-TOF VOCs Online Analysis System

N20 TVOC Online Analyzer

Portable VOCs Analysis Products

3000 Portable NMHC Analyzer

Accessories & Consumables

SUMMA Sampling Canister & Standard Gas & Tedlar Bag

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Nutech Instruments Profile

NUTECH PRODUCT LINES

Air Lab Sample Prep Products

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Application Note by Using Nutech Preconcentrator

- Catalogs | Leaflets | Manuals
- Nutech Services
- VOCs Related Standards & Methods
- Technical Articles
- Online VOCs Analysis Products
- Portable VOCs Analysis Products
- Accessories & Consumables
- Compounds in Lab Analysis
- Not all 3.2 L air sampling canisters are 3 liters. Wait... what!?
- Application Note by Using Nutech Preconcentrator System for PAMS Compounds in Lab Analysis