

Some NUTECH PRODUCTS

(see More in PDF Brochure)



2100 Can Cleaning



2200 Dynamic
Std & Dilutor



2600DS AutoCan
Sampling



3602
Autosampler



Sampling Canisters



2110 Can Heating
Options



2701 Prog
Can Timer



2702 Digital
Can Timer



Heated Jacket & Manifold for Canisters



2505DS Prog
Cartridge Autocleaner



2800 Headspace
Autosampler



2508 TD
Autosampler



8900
Preconcentrator



2011 Nutech Products

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Australian Distibutors



GD ENVIRONMENTAL SUPPLIES, INC.

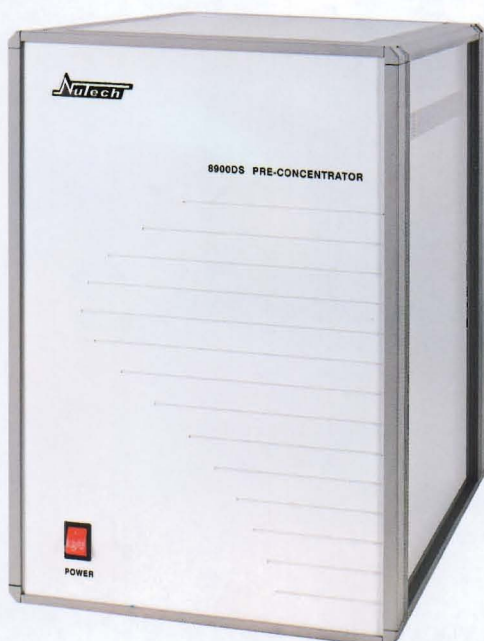
NUTECH PRODUCT PROFILE

GD Environmental Supplies, Inc. is a provider of GC and GCMS inlet systems for VOC analysis. Dr. Dai, the founder of GD Environmental, has over 30 years experience in providing technology, instrument design and providing services to the laboratory market on a global basis. We have taken the NUTECH brand that has over 100 systems in place and have improved the capabilities of both the hardware and software of those systems. We have introduced a "New" line of preconcentrators, auto samplers, canister cleaning systems, standard and sample dilution systems. We provide a thermal desorber, automatic canister sampling system and headspace autosampler. GD Environmental has a staff based in Dallas, Texas to provide technical support, application support and offers service contracts to all their customers.



NUTECH 8900 PRECONCENTRATOR

This preconcentrator has all the most advanced hardware and software than any other manufacturer of VOC preconcentrators in the market and many unique features that separate us from the competition for the analysis of EPA: TO-14 and TO-15 compounds. The advanced temperature control is one example how we can control variation under $\pm 2^{\circ}\text{C}$, assuring stable and accurate analysis.

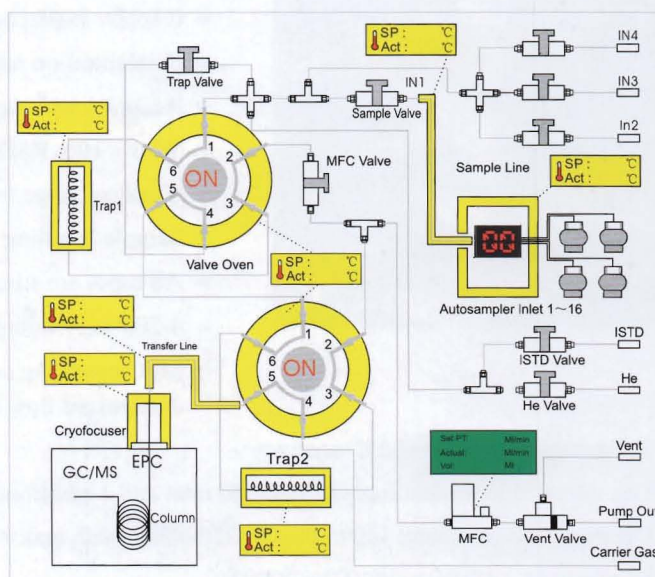


HARDWARE FEATURES

- High sensitivity and wide detection range
- Three stage module: two cryogenic traps and one cryofocuser
- High accuracy and repeatability
- Friendly sample handling
- Three additional sample inlets
- USB interface and user friendly software
- QA/QC, leak check, sequence and method table printouts

SOFTWARE FEATURES

- Built to EPA TO-14, TO-15 methods
- Ability to configure/change methods
- Bypass trap 1 and/or bypass cryofocuser without hardware changes
- Intuitive gas path graphic display
- Adjust sequence control during run
- Comprehensive QA/QC report
- Windows 2000, XP and Vista compatible
- Friendly table print format.



Headquarters: GD Environmental Supplies, Inc.
651 N. Plano Rd. #429, Richardson TX 75081
E-mail: drdai@gdair.com
Website: www.nutechins.com, T: 972 480 8908; F: 972 480 8308

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Sales Office: New Star Environmental, Inc.
3293 Ashburton Chase NE, Roswell GA 30075
E-mail: Sales@NewStarEnvironmental.com
Website: www.NewStarEnvironmental.com, T: 770 998 0296; F: 770 998 9794

NUTECH 8900 PRECONCENTRATOR

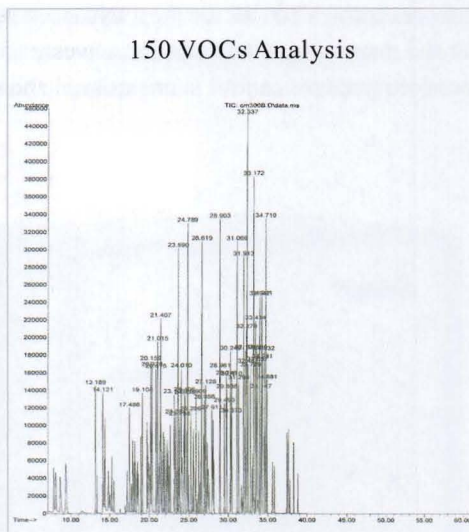
UNIQUE FEATURES

HARDWARE:

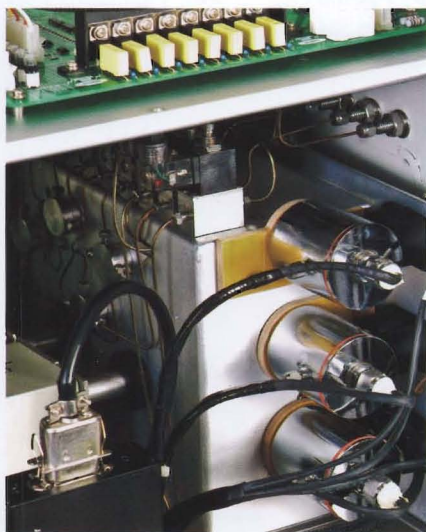
- Switch power supply
- Advanced temperature control
- Compact PCB board

SOFTWARE:

- QA/QC print out end-user friendly
- QA/QC reports listed in a rolling calendar
- Dynamic gas flow display and flow direction for all sample paths



NUTECH 8900 SPECIFICATIONS



- Three stage cryogenic traps
- Glass bead: -190°C to 250°C
- Tenax multimedia trap: -190°C to 250°C
- Cryofocuser: -190°C to 250°C
- Sensitivity and detection range
- 0.1ppbv to percent level for most VOCs
- Concentration ratio: >1000:1
- Accuracy and repeatability
- Within 10% RSD for most VOC compounds with a sample
- Loading range of 4-1000ml
- Sample handling
- All tubes are silica coated stainless steel
- 4-2000ml loading range with 0-100% relative humidity
- MFC operating range 5-120ml/min with +/-2% accuracy with an optional customized flow range
- Temperature control: +/-2°C accuracy
- Gas inlets: independent internal standard inlet and 3 additional sample inlets 16 sample inlets with optional autosampler
- Operating environment: 110v/60hz or 220v/50hz with max 1500w, 0-40°C/90% RH operating range.
- Dimensions: 14"(W)×20"(H)×20"(D)
- Weight: 65 lbs.

NUTECH 3602 SERIES AUTOSAMPLER

This instrument works with either the Nutech 8900 or Nutech 3551, it holds up to 16 canisters (all sizes) and Tedlar™ bags. The autosampler is a vertical design which saves valuable laboratory space and makes it easier to add and remove canisters. The canister hold plate is made in stainless steel and can be flipped up when not in use.

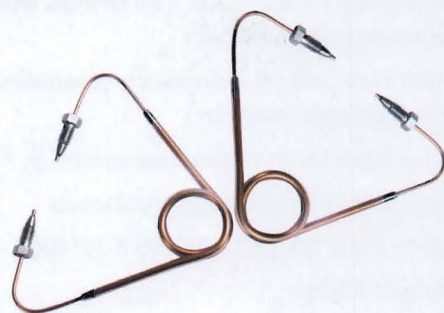


FEATURES

- Space saving
- Easy to add or remove canisters
- Automated analysis of 16 Silonite® or SUMMA passivated canisters in accordance with EPA methods TO-14 and TO-15
- Back-flushing of each line after analysis under software control
- Automatic leak-check prior to opening canister valves
- Interfaces with 8900/3551, 2502 software

SPECIFICATIONS

- Work with 8900, 3551 or any commercial concentrator
- Two models available:
 - Model 3602 tower design
 - Model 3603 tower design (smaller footprint)
- 16 channels with silica coated SS tube
- Leak check each position with QA/QC reports (controlled by preconcentrator software)
- Flush each position individually (controlled by preconcentrator software)
- 16 position valve heated with temperature control @ $\pm 2^{\circ}\text{C}$
- Dimensions:
 - Model 3602: 35" (W) \times 59" (H) \times 18" (D)
 - Model 3603: 30" (W) \times 59" (H) \times 15" (D)
- Weight:
 - Model 3602: 33 lbs.
 - Model 3603: 29 lbs.



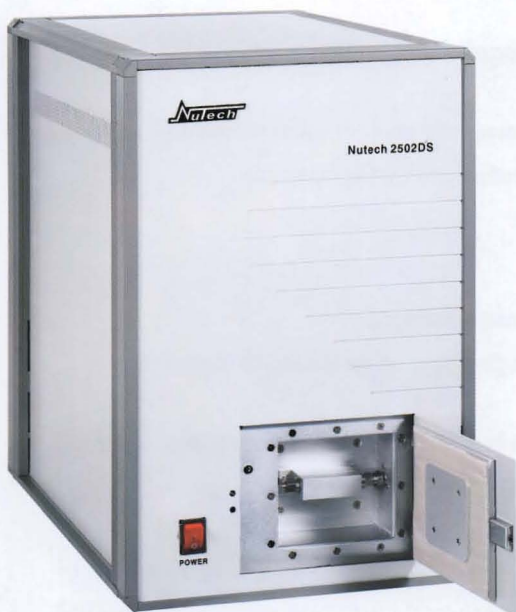
Headquarters: GD Environmental Supplies, Inc.
651 N. Plano Rd. #429, Richardson TX 75081
E-mail: drdai@gdair.com
Website: www.nutechins.com, T: 972 480 8908; F: 972 480 8308

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Sales Office: New Star Environmental, Inc.
3293 Ashburton Chase NE, Roswell GA 30075
E-mail: Sales@NewStarEnvironmental.com
Website: www.NewStarEnvironmental.com, T: 770 998 0296; F: 770 998 9794

NUTECH 2502DS AUTOMATIC THERMAL DESORPTION SYSTEM

The Nutech 2502DS system automatically analyzes VOCs following EPA methods TO-17, TO-1 and TO-2. The system handles tenax, charcoal, molecular sieve cartridges and other types of adsorbent tube cartridges. The Nutech 2502DS works with all commercial GC and GC/MS. Our system has a built in cryofocuser, wide range temperature control and user-friendly software.

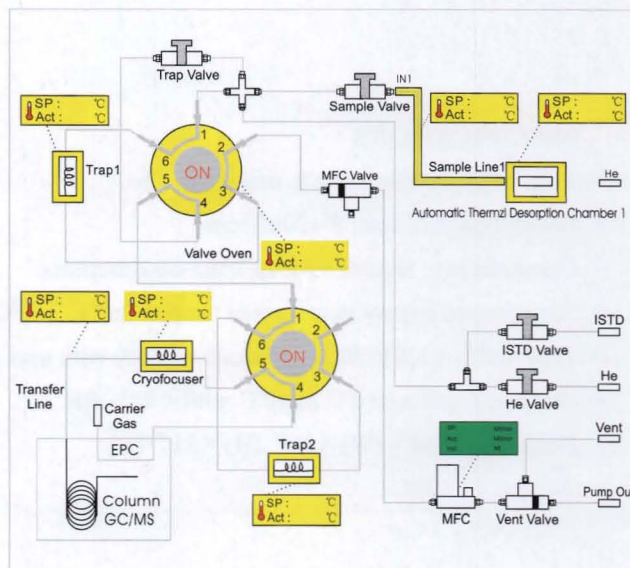


FEATURES

- Performs EPA methods: TO-17, TO-1 and TO-2
- Handles all types of cartridges and adsorbent tubes
- Compatible with all GC/GC-MS
- Built-in cryofocuser
- Friendly software with gas flow direction
- Heated transfer line connects directly with column

SPECIFICATIONS

- Thermal desorption temperature range: 20°C - 300°C
 - Cartridge size: 1/4" width, 3.5" length
 - Thermal desorption media: He, Air or N₂
 - Thermal desorption flow: 5 to 120ml/min
 - Option flow
- Software: compatible with Windows® 2000, XP and Vista
- Power: 110 V/60Hz or 220 V/50Hz with max. 1500W, -5°C to 50°C/90%RH
 - Sensitivity: 0.2ppb or lower for most compounds
 - Dimensions: 22" (W) × 25" (H) × 30" (D)
 - Weight: 62 lbs.



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NUTECH 2500DS THERMAL DESORPTION UNIT

The Nutech 2500DS Thermal Desorption unit is designed for a single tube thermal desorption application.



APPLICATIONS

- This single tube thermal desorption unit is suitable for USEPA TO-1, TO-2 and TO-3 methods.
- Handles media such as Tenax, charcoal, or multi media tube samples.
- Can be used as a VOCs testing device for materials.

FEATURES

- Unit is lightweight and portable.
- Single tube compatible with all preconcentrators.
- Desorption gas flow rate is controlled by preconcentrators.
- Independent temperature control.
- Easy operation and control system.
- Bench top installation designed to save space.
- Desorbed gases can be collected into either canisters or Tedlar bags as well as directly into an analytical instrument such as Nutech 2502 or 8900.

SPECIFICATIONS

- Tube position: 1
- Desorption flow rate: 5-120ml/min
- Compatibility: Nutech 8900 or 2502 concentrators
- Temperature control range: room temperature to 300°C
- 110V/60Hz, (220V/50Hz optional) +/- 10% with max 500W power supplies
- Working condition: 0°C to 40°C with < 90% RH
- Dimensions: 5"(W)×5"(H)×56"(D)
- Weight: 1.1 lbs.

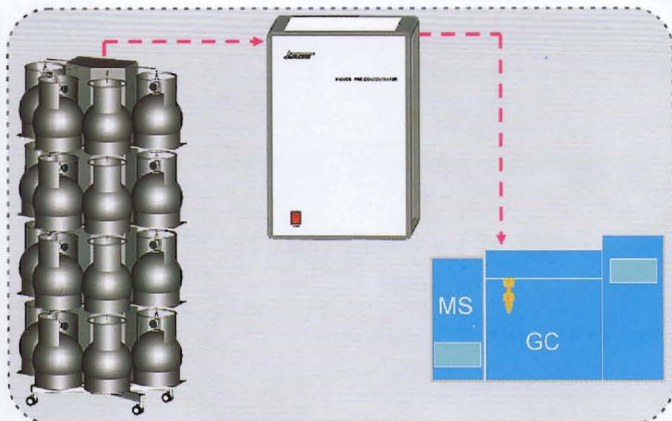


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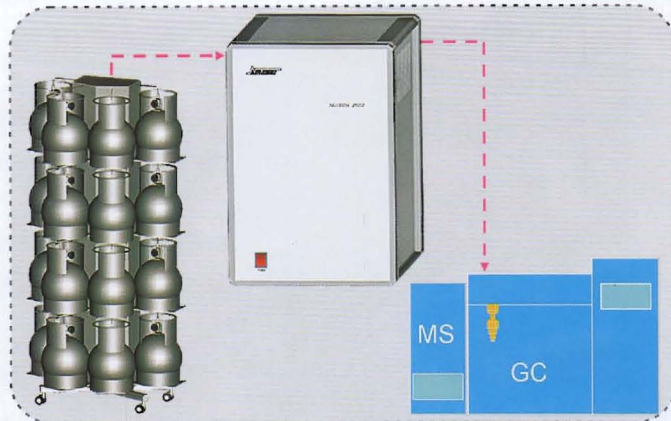
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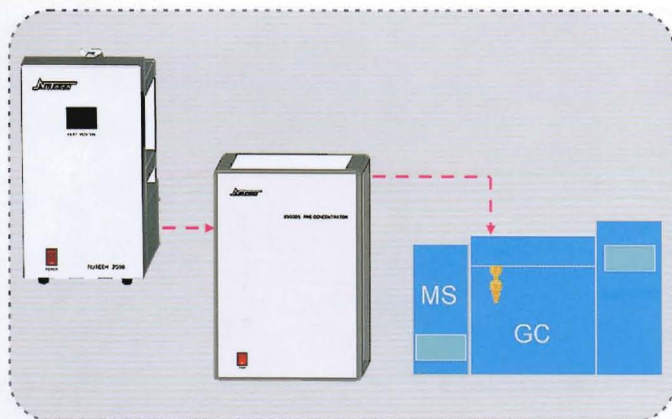
SUGGESTED INSTRUMENT CONFIGURATIONS



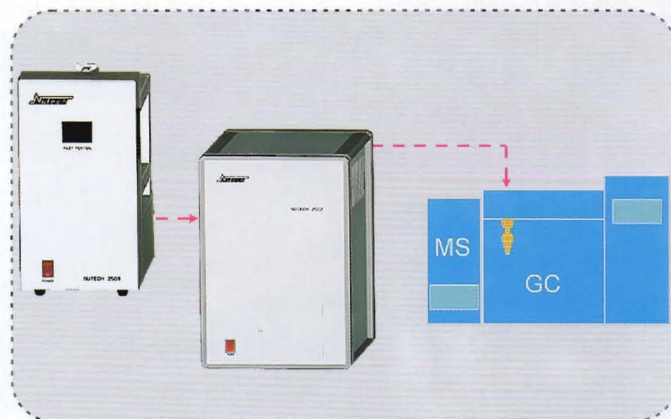
3602-8900: Nutech 3602 autosampler with 8900 preconcentrator is the best tool for air VOC analysis. It has 16 canister positions with an additional 3 inlets for canisters.



3602-2502: This set up combines thermal desorption and cryo concentration. It has 16 canister positions with an additional 3 inlets for canisters as well as one channel for thermal desorption.



2508-8900: This configuration combines thermal desorption and cryo concentration, but focuses on thermal desorption. It handles 16 position cartridge tube and an additional tube for thermal desorption and as well as 3 inlets for cryo concentration.



2508-2502: Nutech 2508 thermal desorption autosampler with 2502 Thermal Desorption concentrator can handle 1/4"X3.5" tube cartridge. This configuration is best for thermal desorption application and handles air VOC and semi-VOC analysis, using 16 tubes plus one additional tube.

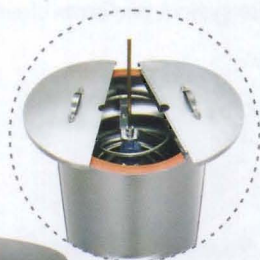
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NUTECH HEATED MANIFOLD FOR SEMI-VOLATILE APPLICATIONS

The Nutech Heated Manifold is designed for a special application for semi volatile compound analysis.



APPLICATION

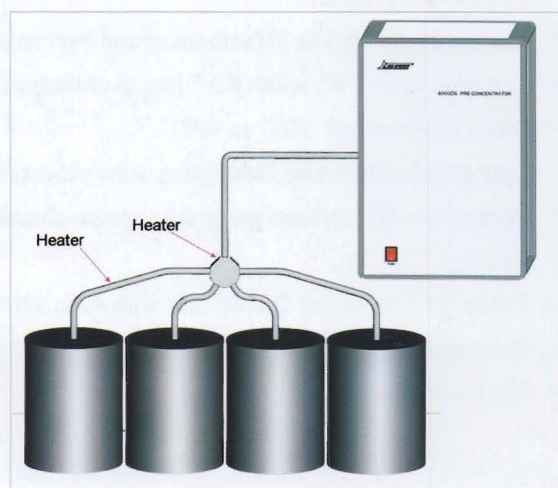
- For semi volatile compounds analysis using a preconcentration system such as cryogenic system or thermal desorption system.

FEATURES

- 1, 2, 4, and 16 positions are available.
- Each canister is individually enclosed and heated.
- All sample lines are heated from end to end leading to the instrument inlet.
- Independent temperature control system can control temperature from 25°C to 300°C.
- Easily fits canisters up to 6 liters.

SPECIFICATIONS

- Canister heating jacket 23" (D) × 20" (H)
- Temperature control range: room temperature 25°C to 300°C
- Temperature control accuracy : +/- 2°C
- 110V/60Hz, (220V/50Hz optional) +/- 10% with max 500W power supplies
- Working condition: 0°C to 40°C with < 90% RH
- Weight: 10 lbs.



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3293 Ashburton Chase NE, Roswell GA 30075
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NUTECH 2505DS PROGRAMMABLE CARTRIDGE AUTO CLEANER

The Nutech 2505DS was designed to follow the protocol to clean and condition cartridges according to EPA methods TO-17, TO-1, TO-2 and other thermal desorption tubes. The Nutech 2505DS cleans and conditions thermal desorption cartridges at different temperature ranges, handles tenax, charcoal, molecular sieve SS cartridges and many other types. The unit is completely programmable, user friendly software allowing technician to walk away while system performs cleaning cycle.



FEATURES

- Automatically cleans and conditions up to 16 cartridges at different temperature ranges
- Constant flow control
- Programmable flow rates
- Programmable temperature settings
- Eight positions with an option to 16 positions
- Automatic temperature control
- Accepts most types of cartridges
- Easy to clean

SPECIFICATION

- Flow rate setting: 5 to 120ml/min or end-user specified range
- Cartridge size: 1/4" width 3.5" length or customer designed size
- Temperature range: 20°C to 400°C
- Option: individual tube clean/group tube clean program
- Option: 24v DC vacuum pump for vacuum cleaning
- Display: 3" LCD
- Power: 110V/60Hz or 220V/50Hz with max. 110W, -5°C to 50°C
- Dimensions: 12"(W)×14"(H)×16"(D)
- Weight: 62 lbs.



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NUTECH 2100 SERIES CANISTER CLEANING SYSTEM

The cleanliness of the canister is very critical to the overall accuracy of the detection of TO-14 and TO-15 compounds in the sample. Canisters are reused by evacuating and refilling with nitrogen or zero air multiple times to assure previous VOCs are completely eliminated. The Nutech 2100 oven heating system maintains the canisters in a controlled temperature range upwards to 200°C. Sample temperature controlled heating strips are available.



FEATURES

- Embedded system with touch screen LCD panel enables easy operation
- Manifold assembly with 4, 6, 8, 12 canisters
- Operates independently without computer
- Temperature controlled heating strips
- Flexible stainless steel tube connection for canisters and manifold

SPECIFICATIONS

- Canister heating: Automatic temperature control
- Vacuum system:
 - Model 2100-2 with two pumps (Turbo Pump and Diaphragm Pump)
 - Model 2100 with one pump (Edward pump)
- Humidifier:
 - Built-in pure water humidifier system with water level display
 - Automatically humidifies the gas stream into canisters
- Automation: Can program cleaning cycles from 1 to 99 cycles or clean manually
- Pure gas supply
 - Nitrogen, zero air between 0 to 50 psig
- Operation environment: 110 V/60Hz or 220V/50Hz with max. 1500W, 0-40°C/90%RH operating range
- Dimensions: 22"(W) × 25"(H) × 30"(D)
- Weight: 62 lbs.



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NUTECH 2101DS COMPUTER CONTROLLED CAN CLEAN SYSTEM

The Nutech 2101DS is a computer controlled canister cleaning system. The 2101DS can be run with Windows® XP, Windows® Vista and Windows® 7 system. A dynamic flow path is shown on the screen and the QA/QC report can be printed.



APPLICATIONS

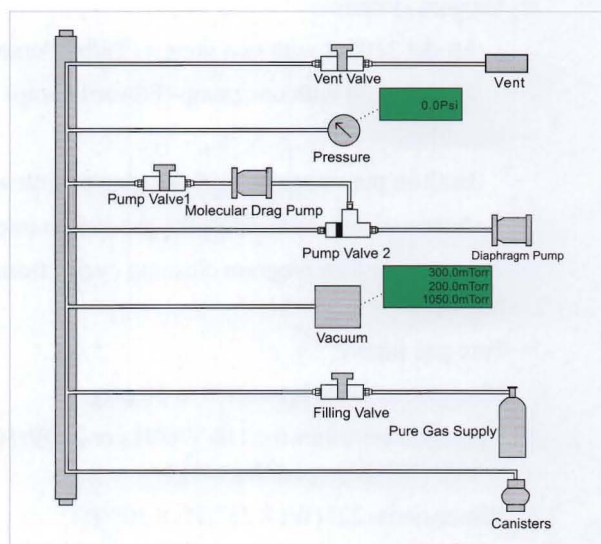
- Cleans 1, 3, 6, 15L canisters
- Cleans Tedlar® bags
- Canister humidification and canister leak check

FEATURES

- Auto clean and auto leak check
- Oven heating or heating strips
- Dynamic gas flow path display
- Auto QA/QC reports
- Dual pump system
- On screen review with print option

SPECIFICATIONS

- Windows® XP, Windows® Vista, and Windows® 7 compatible
- Holds up to 16 canisters
- Max vacuum: < 50 mtorr
- 110V/60Hz, (220V/50Hz optional) +/- 10% with max 100W power supplies
- Working condition: 0°C to 40°C with < 90% RH
- Dimensions: 18"(W)×30"(H)×25"(D)
- Weight: 26.4 lbs.

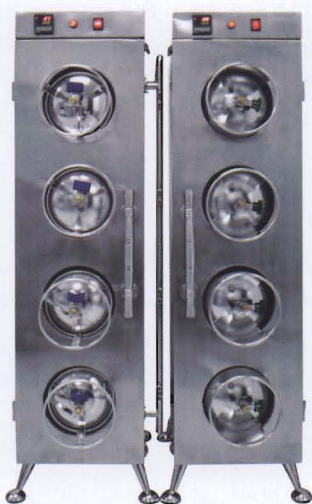


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NUTECH 2110 CANISTER HEATING OPTIONS



Standard up-right 8 positions



Oven holds either 6 3L, 4 6L or 2 15L canisters



Desktop 4 position



Heating strips and individual heating jacket

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NUTECH 2200 SERIES DYNAMIC STANDARD AND SAMPLE DILUTION SYSTEM

The Nutech 2200 system was designed for the end-user to either make calibration standards from a high concentration source as well as to pressurize the sample canister: which is under vacuum, to an acceptable pressure and calculate the dilution factor. The dilutor prepares ppb level standards from ppm level certified cylinders. The dilutor can be expanded to accommodate 6 mass flow controllers, blend cylinder standards with a diluent gas under equilibrium conditions for superior reproducibility. The Nutech 2200 has two separate channels, one for the standard and a second channel for the sample dilution.



FEATURES

- Easy operation with built-in microcontroller
- Separate standard and sample dilution channel to avoid cross contamination
- Liquid injection adaptor for liquid source standard
- The initial pressure of sample canister can be read and displayed, the final pressure can be set by end-user, program can automatically calculate the dilution factors and finish the dilution

OPTIONS

- Prepare standards from liquids
- Heated oven for canisters
- Humidified air inlet
- Multiple standard inlet configuration

SPECIFICATIONS

- System configuration: Separate standard and sample channels for standard and sample dilution
- Mass flow controller
 - Flow rate: 5 to 100ml/min, accuracy: <2% RSD
 - Multi mass flow controller for multi channel dilution
 - Flow rate option: 5ml/min To 1000ml/min
- Operating environment: 110 V/60Hz or 220 V/50Hz with max. 100w, 0-40°C, 90%RH operating range
- Dimensions:
 - Model 2200A (compact): 13"(W)×5.5"(H) × 17"(D)
 - Model 2201A: 11"(W)×17"(H)×12"(D)
- Weight:
 - Model 2200A: 18 lbs.
 - Model 2201A: 17 lbs.



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