



Leaders In GC Sample Introduction Technology



## Purge and Trap Sample Introduction Instruments

- Reliable Purge and Trap Concentrator with 2nd Generation Autosampler Options for both Water and Soil Samples

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## Introduction

If gas chromatography plays a role in your daily operations, you already know CDS Analytical as the world's leading manufacturer of pyrolysis instrumentation. But we also manufacture world-class Purge & Trap GC front-end sampling instruments.

The CDS-7000E was acknowledged as a workhorse in the industry for decades as the most cost effective Purge and Trap concentrator. With the introduction of the 2nd generation autosampler 7350 and 7450 families, this dependable Purge and Trap concentrator is unlocking its full productivity while maintaining the unrivalled chromatographic resolution and the industrial leading Cost Performance Index.

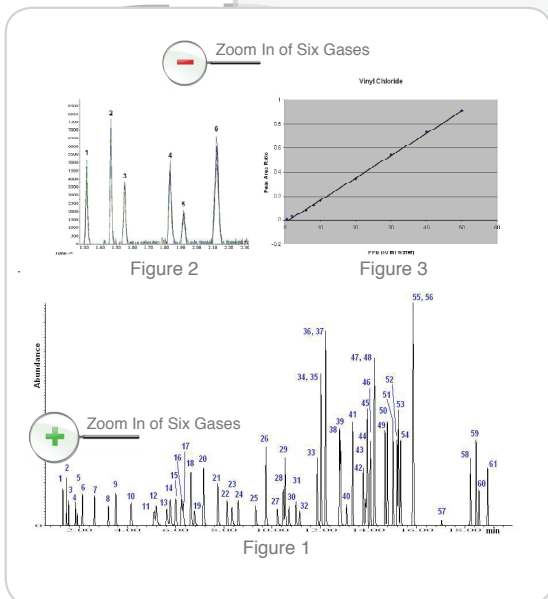


Figure 1: VOC's at 20 ppb concentration purged from water.  
 Figure 2: Multiple runs of the six gases at 500 ppt.  
 Figure 3: Linearity for Vinyl Chloride from 500 ppt to 50 ppt

- |                               |                                 |
|-------------------------------|---------------------------------|
| 1. Dichlorodifluoromethane    | 32. 1,2-Dibromoethane           |
| 2. Chloromethane              | 33. Chlorobenzene               |
| 3. Vinyl chloride             | 34. 1,1,1,2-Tetrachloroethane   |
| 4. Bromomethane               | 35. Ethylbenzene                |
| 5. Chloroethane               | 36. m-Xylene                    |
| 6. Trichlorofluoromethane     | 37. p-Xylene                    |
| 7. 1,1-Dichloroethylene       | 38. o-Xylene                    |
| 8. Methylene chloride         | 39. Styrene                     |
| 9. trans-1,2-Dichloroethene   | 40. Tribromomethane             |
| 10. 1,1-Dichloroethane        | 41. Isopropyl benzene           |
| 11. 2,2-Dichloropropane       | 42. Bromobenzene                |
| 12. cis-1,2-Dichloroethene    | 43. 1,1,2,2-Tetrachloroethane   |
| 13. Bromochloromethane        | 44. 1,2,3-Trichloropropane      |
| 14. Chloroform                | 45. n-Propyl benzene            |
| 15. 1,1,1-Trichloroethane     | 46. 2-chlorotoluene             |
| 16. Carbon tetrachloride      | 47. 1,3,5-Trimethyl benzene     |
| 17. 1,2-Dichloropropene       | 48. 4-Chlorotoluene             |
| 18. Benzene                   | 49. tert-Butyl benzene          |
| 19. 1,2-Dichloroethane        | 50. 1,2,4-Trimethyl benzene     |
| 20. Fluorobenzene (I.S.)      | 51. sec-Butyl benzene           |
| 21. Trichloroethylene         | 52. 1,3-Dichlorobenzene         |
| 22. 1,2-Dichloropropane       | 53. p-Isopropyl toluene         |
| 23. Dibromomethane            | 54. 1,4-Dichlorobenzene         |
| 24. Bromodichloromethane      | 55. 1,4-Dichlorobenzene, d-4    |
| 25. cis-1,3-Dichloropropene   | 56. 1,2-Dichlorobenzene         |
| 26. Toluene                   | 57. 1,2-Dibromo-3-chloropropane |
| 27. trans-1,3-Dichloropropene | 58. 1,3,5-Trichlorobenzene      |
| 28. 1,1,2-Trichloroethane     | 59. Hexachlorobutadiene         |
| 29. Tetrachloroethylene       | 60. Naphthalene                 |
| 30. 1,3-Dichloropropane       | 61. 1,2,3-Trichlorobenzene      |
| 31. Dibromochloromethane      |                                 |

## 7000E Design Highlights

- The sample path is made of SilcoNert 2000 coated stainless steel, which is the best chemically inert material commercially available
- Valve oven reaches as high as 350°C, which is capable of covering the widest range of analytes including Gases, VOCs, low boilers, medium boilers and semi volatiles.
- Hydroguard coated Wet Trap follows EPA method and eliminates over 96% of moisture
- Patented foam sensor prevents possible contaminations
- Quick access panel makes regular maintenance easier than ever
- Front panel shows the instrument status at a glance
- Powerful Windows based user interface makes it compatible with leading GC systems

# 7000E Features

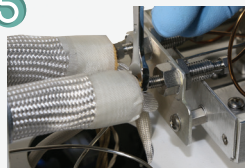


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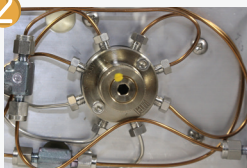
Valve Oven Reaching as High as 350°C

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Standard transfer line and optional soil autosampler transfer line

2



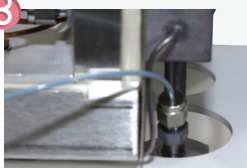
Siliconert 2000 Coated Sample Pathway

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Quick Access Panel

3



Patented Foam Sensor

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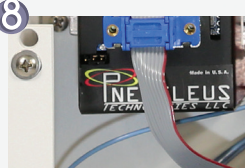
Hydroguard Wet Trap

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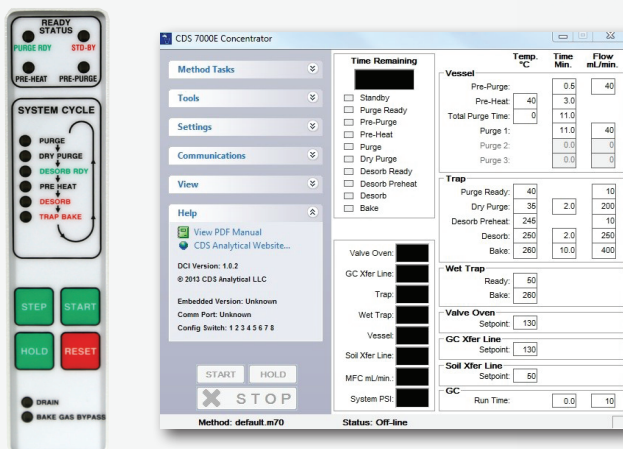
Sample mount for both 5 mL and 25 mL sparge vessel

8



Optional Electronic Programmable Flow Control

## 7000E User Interface



The 7000E keypad (Left) serves dual functions as to (1) Start, Stop and Hold the instrument; (2) Indicate the current purge and trap stage.

The powerful Windows based control software (Right) gives full access on the purge and trap parameter settings, including isothermal zone temperatures, timing, flow rate etc. The software also reads out the status of the instrument with more digital information than the keypad.

## 7000E Specifications

- Programmable times: 0–999.9 minutes
- Trap: 0.3 cm OD x 28.5 cm Length
- Transfer Line: 1.5 m Long, 0.020" ID Silconert tubing in flexible heated jacket
- Desorb pre-heat option
- Maximum Operating Temperatures
  - Valve oven 350°C
  - Transfer Line 350°C
  - Wet Trap 300°C
  - Adsorbent Trap 300°C
- Vocab or Tenax Adsorbent Trap
- Weight: 8.6 kg
- 25 cm W x 44 cm H x 46 cm D

### Options:

- Hot water rinse module
- Electronic mass flow controller

## 2nd Generation CDS Autosampler Platform

The new generation CDS autosampler platform promises a more precise handling for sample loading. This 2nd generation platform will unlock a new era of GC front-end sampling instruments with the following features:



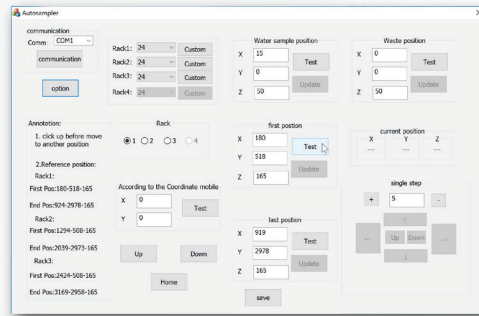
- (1) Improved Precision: The position accuracy of the 2nd generation autosampler is improved by 50%. Due to a new high precision drive shaft and components, 3D (X, Y and Z) placement accuracy is now within 1 mm as compared to 1.5 mm in the first generation.



(2) **Quicker Operation:** The new autosampler platform does not need to HOME after each movement of the vial or tube. There is less movement needed with the pick-and-place arm which ultimately should extend it's useful life.

(3) **Ease of Alignment:** The alignment calibration has shifted from hardware calibration to software calibration. This greatly improves and accelerates installation set up.

(4) **Longer Life Expectancy.** The new control board has adopted a SMART acceleration curve to lower the impact on the driving mechanism by 40%. This extends the life of the system as less strain will be applied on the motors and drive shaft.

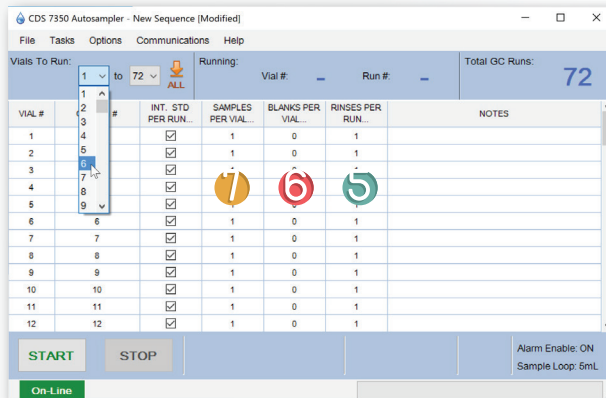


Sample Vial Position Calibration  
through the Software

## CDS-7350 Purge and Trap Water Autosampler

- 1 72 position autosampler
- 2 Internal standard addition
- 3 5 mL and/or 25 ml sample loop available
- 4 PEEK sample pathway
- 5 Programmable rinses
- 6 Programmable blanks
- 7 Multiple aliquots





7350 Control Interface

When coupled with CDS-7000E Purge and Trap concentrator, the system is capable of meeting criteria from:

- EPA Method 624
- EPA Method 524
- EPA Method 5030
- EPA Method 8260 (water only)

## CDS-7450 Purge and Trap Soil/Water Autosampler



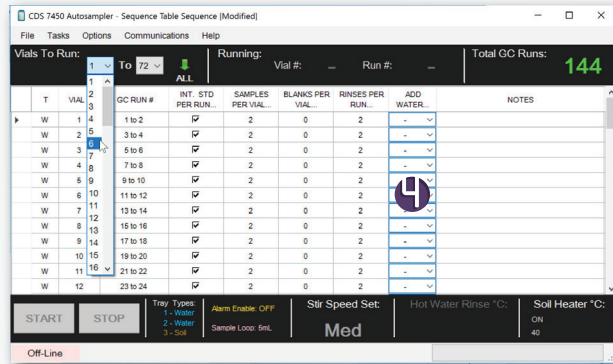
### All standard 7350 features:

- 72 position autosampler
- Internal standard addition
- 5 mL and/or 25 mL sample loop
- PEEK sample pathway
- Programmable rinses
- Programmable blanks
- Multiple aliquots



7450 Dynamic Headspace Tower for Soil Sample

- Plus:
- 1 Dynamic headspace for soil sample
  - 2 Soil heater to 80 °C
  - 3 Magnetic stirrer
  - 4 Water addition to soil sample



7450 Control Interface

When coupled with CDS-7000E Purge and Trap concentrator, the system is compliant with:

- EPA Method 624
- EPA Method 524
- EPA Method 8260 (water and soil)
- EPA Method 5030
- EPA Method 5035

### 7350 and 7450 Specifications

Autosampler Dimensions	
<b>Height</b>	48.2 cm (19.0")
<b>Width</b>	56.9 cm (18.4")
<b>Depth</b>	62.2 cm (24.5")
<b>Weight</b>	23 kg (50 lbs.) - 7350 24 kg (53 lbs.) - 7450
<b>Line Voltage</b>	115 Vac or 220Vac

Make CDS Your Universal Inlet Partner



Thermal Desorption

Pyrolysis

Purge and Trap

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