



# HT2000H

## Headspace autosampler

Made to meet the needs of static headspace injection for GC analysis.



### KEY FEATURES:

- Fits all GCs and GC/MSs
- Near to zero requirement for bench space
- User friendly touch screen
- CFR 21 Part 11
- Multiple position incubation oven and shaking at multiple selectable power settings
- The lowest total cost of ownership in the industry

### Easy To Use

Just load the samples and run the analysis with no extra downtime. The full-color touch screen interface provides easier system accessibility and usability. The touch screen eliminates drilldown, simplifying instrument control for both novices and experienced users. All system parameters and settings are graphically displayed for a quick and easy set-up requiring minimal user training.

For routine analyses, the headspace sampler features a **one-touch operation**. After loading the sample, you just need to enter a range of vial numbers and push the START button. The display shows real-time status and allows for easy stand-alone operations.

### Operations

The robotic vial processing operation allows for sample analysis in a straightforward and systematic way. The sample vials are transported into the heated six-position incubator for preconditioning. **The sample is**

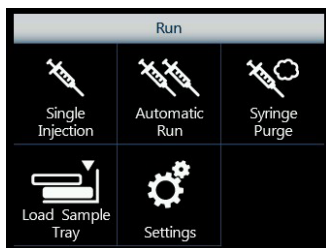
**simultaneously heated and shaken**, in order to facilitate the state change and to reach the equilibrium. A heated, gas-tight syringe is then moved over the incubator and the headspace sample is withdrawn. After sample injection, the syringe is automatically cleaned, by purging with inert gas.

### Productivity

**The samples can be run as fast as the GC will allow**, because a sample is always ready to be injected when the previous run is completed. In fact, for maximum throughput, **HT2000H** is equipped with **six-position oven** that allows the **optimization of preparation times**.

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## Proven superior headspace technology

The high performance, gas-tight heated syringe is a simple and robust system. It eliminates the dead volume and absorption effects, typical of sample loops and transfer lines, which can also impede their detection at very low levels.

The **HT2000H** syringe-only concept allows for sequential injections, even with samples characterized by highly dissimilar features. Even the most chemically active compounds can be analysed, without needing to change any of the sample pathways.

Furthermore, it permits **adjustable sample volumes without loop changes**. No complicated error prone operations, such as vial pressurisation, valve switching, loop filling or heated transfer lines are involved. Therefore, you can extract more data from the samples in less time and at the lowest possible cost per sample.

**Vial leakage check** - a proprietary technology<sup>1</sup> - can be included in your method. In such a scenario the pressure inside vials of the same batch is monitored by a heuristic procedure in order to check against anomalous values that are indicative of a vial leakage problem.

Finally, to provide additional robustness of your analysis, going beyond preventive maintenance counters, a **system integrity check can be automatically performed** in every batch by means of an heuristic procedure<sup>1</sup>.

## The lowest cost of ownership, the greenest chemistry

No carrier gas is needed because gas is used only for purging between samples. No o-rings or seals to replace, saving hours of unnecessary downtime. **No magnetic or special caps are required**, because vial transport is positive and reliable.

Allows you to instruct the system to shut off heating when the run is completed, in order to reduce electrical consumption.

## Universal and versatile

**HT2000H is the most compact autosampler on the market** (with a near-to-zero requirement for bench space, as well as no requirement for GC injector modification).

It can serve both the front and rear injector. The injector selection is made directly by the sequence list, avoiding difficult set up operations or re-installation to pass from one injector to the other. Furthermore, the rotating head design ensures that the **injection port is always free**, for manual injections or maintenance. The system is fully **self-contained** and can be **interfaced with almost any gas chromatograph**, giving you access to HTA's proven headspace technology, regardless of the GC brand or model you have in your laboratory.

## Optional Software Control

The **HT2000H** can also be controlled by a PC, using the **HTA Autosampler Manager** (please see the dedicated brochure). HTA Autosampler Manager software can run in standard mode or with full CFR 21 Part 11 compliance.

## HT2000H Technical specifications

### General characteristics

Tray capacity: 42 vials (20ml); optional: 6 and 10ml  
 Syringe volume: 2.5ml (standard); optional: 1 and 5ml  
 Cleaning system: inert gas flush (inlet: 1/8"; max pressure: 1bar)  
 Maintenance: preventive counters available; system integrity check<sup>1</sup>  
 Electrical control: LAN and TTL; optional: RS232  
 Target illumination: Yes

### Conditioning

Oven positions: 6  
 Oven temperature: off; 40-170°C  
 Incubation time: 0-999min  
 Shaking method: orbital  
 Shaker speed: from very low to very high  
 Shaking cycles: on/off 0-9.9min

### Sampling

Syringe temperature: off; 40-150°C  
 Sample volume: steps of 0.01ml  
 Sample homogenization: up to 15  
 Sample speed: 0.01-100ml/min

### Injection

Injection speed: 0.01-100ml/min  
 Pre/Post dwell time: 0-99sec  
 Enrichment: up to 15  
 Dwell time between injections: 0-100min

### Physical characteristics

Dimensions (LxHxD)<sup>2</sup>: 330x640x320mm  
 Weight: 10kg  
 Power Supply: 100-240±10%Vac; 50-60Hz; 150VA

The following functionalities are only available when using the HTA Autosampler Manager: progressive mode, vial leakage check and CFR 21 Part 11

<sup>2</sup> tray and oven cover in closed position

<sup>1</sup> Patent pending

**HTA,**  
the  
company

HTA is one of the leading Italian scientific instrument engineering and manufacturing companies. We are currently focused on applications and solutions for analytical, life sciences and clinical chemistry automation. Our specialisation is in robotic systems for sample management; among our most popular products are the GC and HPLC autosamplers and preparative workstations. In addition, HTA offers engineering and manufacturing consultancy services for its OEM customers. HTA's quality management system is certified UNI EN ISO 9001:2008.



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