



COMPARE MODELS

	2100H	2000H	2000HT
Sample Capacity	14 samples: 20 or 10ml	42 samples: 20, 10 or 6ml	42 samples: 20, 10 or 6ml
Removable Rack	-	✓	✓
User Interface	Keypad	Touchscreen	Touchscreen
Quick-fix Mounting Kit	✓	✓	✓
AI functionalities	✓	✓	✓
Oven Position(s)	1	6	3
Oven Temperature Range	Off; 40-150°C	Off; 40-170°C	Off; 40-300°C
Shaking Capability	YES (Sussultatory)	YES (Orbital)	YES (Orbital)
Programmable Injection Volume	✓	✓	✓

TECHNICAL SPECIFICATIONS

General features

Syringe volume: 2.5ml (standard); optional: 1 and 5ml
 Cleaning system: Inert gas flush (inlet: 1/8"; max pressure: 1bar)
 Maintenance: preventive counters; system integrity check¹; predictive maintenance functionalities by AI LAN and TTL
 Electrical control: Yes
 Target illumination: Yes

Tray capacity

2000H/2000HT: 42 vials (20ml); optional: 6 and 10ml (1 removable rack)
 2100H: 14 vials (20ml); optional: 10ml

Conditioning

Oven positions: 1 (2100H), 6 (2000H), 3 (2000HT)
 Oven temperature: off; 40-150°C (2100H), off; 40-170°C (2000H), off; 40-300°C (2000HT)
 Shaking method: sussultatory (2100H), orbital (2000H and 2000HT)
 Shaker speed: from very low to very high
 Shaking cycles: on/off 0-9.9min
 Incubation time: 0-99.9min

Sampling

Syringe temperature: off; 40-150°C (2000H and 2100H), off; 40-150°C (2000HT)
 HT Syringe temperature: 150-250°C (2000HT)
 Sample volume: steps of 0.01ml
 Sample homogenization: up to 15
 Sample speed: 0.5-100ml/min
 Vial leakage check²: optional

Injection

Injection speed: 0.5-100ml/min
 Pre/Post dwell time: 0-99sec
 Enrichment: up to 15
 Dwell time between injections: 0-100min

Physical features

Dimensions (WxHxD): 280x640x320mm (2100H), 330x640x320mm (2000H and 2000HT)³
 Weight: 8.0kg (2100H), 10.0kg (2000H and 2000HT)
 Power supply: 100-240±10%Vac; 50-60Hz; 60W (2100H), 120W (2000H and 2000HT)

Software

HTA Monitor: included for free
 HTA Autosampler Manager: virtual Touch Screen and AI functionalities, 60-days free trial, full autosampler PC programming

HTA Monitor PC requirements

- Software:
- Microsoft Windows 7, Windows 8.1, Windows 10, Windows 11 PC Edition only (excluding mobile devices and appliances)
 - PC is expected to run Windows OS with the latest update installed (unless differently specified)
 - Additional required software: Microsoft .NET Framework 4.5.2
 - Administrator account for software installation only
- Hardware:
- RAM: 2GB
 - Disk space (for installation): 6GB
 - LAN port
 - 1024x768 Minimum
 - Some functionalities require Internet access

¹ Patented technology
² Tray and oven cover in closed position
³ An optional accessory required
⁴ Subscription required. Initial 3-year subscription is provided with every instrument

Some functionalities require the usage of HTA Autosampler Manager software: progressive mode, vial leakage check and CFR 21 Part 11. HTA Monitor and Internet connection are required for some AI functionalities. It is not required to have HTA Monitor and CDS on the same PC. The PC is required for setup, service and programming 2100H.

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At HTA, we design and manufacture robotics solutions for the scientific community. With decades of expertise, we deliver reliable technologies tailored to modern laboratories. Our products for analytical chemistry include autosamplers and sample prep solutions, covering, among others, GC, LC, and ICP apps. We offer universal autosamplers compatible with analyzers from multiple brands, ensuring flexible lab workflows. HTA products are made in Italy under UNI EN ISO 9001:2015 and 13485:2021 certified quality systems.

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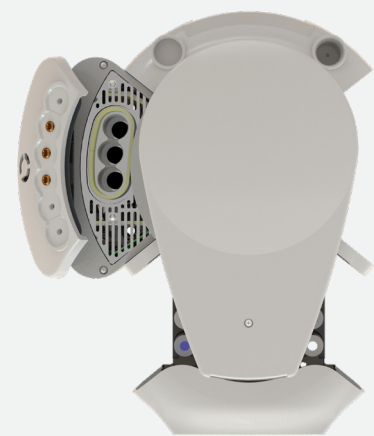
2000H series HEADSPACE AUTOSAMPLERS

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

2000HT: EXTENDS SUPPORT TO HIGH-TEMPERATURE POLYMER ANALYSIS

2000HT is the first and only high-temperature headspace autosampler that enables the execution of high-temperature headspace applications in a syringe-based system without the constraints and limitations induced by valve&loop systems.

By its **extended oven and syringe temperature range**, the 2000HT can accommodate the widest range of applications: standard headspace applications that require temperatures lower than 150°C and **special high-temperature applications related to heat-induced degradation studies, analysis polymers and other high-boiling compounds**, such as phthalate esters or cyclic siloxanes.



KEY FEATURES:

- Fits all GCs and GC/MSs
- Easy to operate and maintain
- The lowest total cost of ownership in the industry
- Empowered by AI



FITS ALL GCs AND GC/MSs

HTA headspace autosamplers are the **most compact on the market**, with a near-to-zero requirement for bench space.

They are fully **self-contained** and can be **interfaced with any gas chromatograph**, allowing access to HTA's proven headspace technology regardless of the GC brand or model currently used in your laboratory. Furthermore, there is **no requirement to modify the GC inlet or GC oven** as often requested by competitor products, thus providing exceptional operational flexibility.

The 2000H series **can serve both the front and rear injectors** in most supported GCs. 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 2000H series takes advantage of our **quick-fix mounting kit**, thereby allowing for autosampler easy relocation across the lab with no service engineer or tool required. Therefore, you are enabled to address any workload peak you may experience **in less than a 5-minute move** of the HTA autosampler from one GC to another, **swap** HTA autosamplers or **share** HTA autosamplers among several GCs.

OPERATIONS: HOW IT WORKS

The robotic vial processing operation allows for sample analysis in a straightforward and systematic way. The sample vials are transported into the heated oven for conditioning, accommodating up to 6 samples

simultaneously, depending on the autosampler model, and allowing for the next sample to be analysed immediately after the previous sample.

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

The **high-quality touchscreen** provides easier system accessibility and usability for both novices and experienced users. Besides the touch screen, the 2000H series can be also controlled by a PC with optional HTA Autosampler Manager software, available in standard or **CFR 21 Part 11** version (see the dedicated brochure for additional information). The HTA Autosampler Manager enables convenient **method development**: progressive tests can be executed so that successive samples receive incremental changes in method parameter setpoints for time and temperature.

PROVEN SUPERIOR TECHNOLOGY FACILITATES EASY OPERATION AND MAINTENANCE

The 2000H series has been engineered with the most advanced technologies to provide an unmatched experience in terms of easiness of use, analytical performance, and data robustness.

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 HTA syringe-only concept allows for sequential injections, even with samples characterised by highly dissimilar features, so 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 technology¹ - **can be included in your method**. In such a scenario, the pressure inside vials of the same batch is checked: our AI algorithm will predict the risk of a vial leakage.

Specific functionalities have been engineered to elevate MSD potentialities and next-generation analysers. Such analysers are more susceptible to some phenomena than conventional GCs, thus the 2000H series implements **sampling and injection methods to reduce septa stress** to minimise contamination of the liner and analyser.

THE LOWEST COST OF OWNERSHIP, THE GREENEST TO PROTECT OUR PLANET

Be environmentally conscious and choose the HTA headspace autosampler as the 2000H series has been designed to conserve electricity, gas, and any valuable resources, allowing you to save money while doing the right thing.

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.

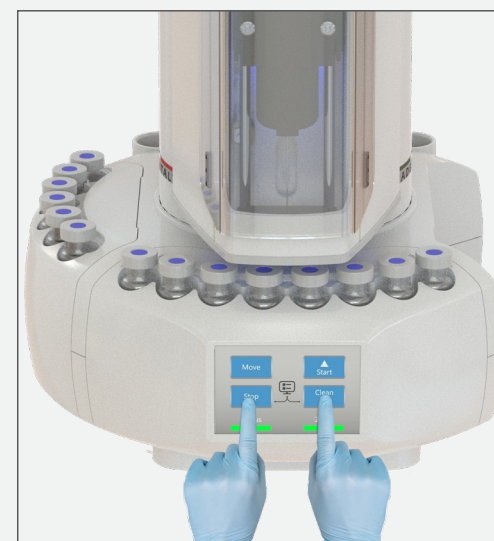
Furthermore, **eco-saving** settings are available to instruct the system to shut off or minimise heating when the run is completed, and **prep-run support** allows to reduce GC gas consumption.

2100H: BEST FIT FOR SMALL BATCH ANALYSIS

Analysing small batches of samples? Get precision and performance with a system that is perfectly sized for your needs. The 2100H offers automated processing of up to 14 samples, with the vials lifted individually into the heating zone for conditioning and immediately returned to their position after injection. Furthermore, a vial can be heated and shaken during the GC run of the previous vial specified in the sequence, resulting in decreased time between two consecutive GC runs.

The PC can perform quick sets of autosampler parameters while all the routine operations can be managed by its **convenient start-stop keypad**. The **LED bar** provides colour-coded status information that is easy to see. A **virtual screen on the PC** automatically shows when an informative message is available or it is activated by double thumb pressure on the keypad.

The 2100H is a **quality, cost-effective alternative to manual headspace**. While manual sampling techniques are simple and inexpensive, they are also tedious, subject to human error and do not provide robust and consistent data, whereas automation ensures consistent and reliable results, while also freeing up laboratory personnel for more productive tasks.



ARTIFICIAL INTELLIGENCE

HTA Monitor – PC utility – is the engine at the foundation of our Artificial Intelligence (AI) capabilities¹. Learn below how AI can boost your lab productivity!



INSTRUMENT PARAMETER OPTIMIZATION AND LIVE INSTRUCTIONS

For key tasks, our **live instructions provide video guides** to refresh experienced operators and train new staff effectively. Additionally, they enhance the user experience by **suggesting programming and setting adjustments** for a smoother, more efficient analysis flow: this includes injection-to-injection optimization, which automatically calculates timing for optimal sample throughput.



SUPPORT FLEXIBLE WORKING STYLES

Virtual screen (2100H) and **screen mirroring (2000H and 2000HT)** enable the control of the autosampler from the PC without the need to stand in front of the autosampler. A replica of your autosampler touchscreen is made available to perform every task from the same familiar user interface. Our products have an **automated email alert system**²: in case of an interruption, an email is sent instantly, enabling quick action to minimize downtime and avoid delays.



AUTOMATED CONSUMABLES TRACKING

Automated consumables tracking with notifications **minimise unexpected downtime** and waste due to unnecessary replacement. Consumables consumption tracking goes far above preventive maintenance counters! **Expiration dates and performance tests**, including correct GC inlet septum installation, are available. Furthermore on each start-up, a **system integrity test**⁴ can be performed to check whether syringe maintenance or replacement is needed.



EMF+: ADVANCED EARLY MAINTENANCE FEEDBACK

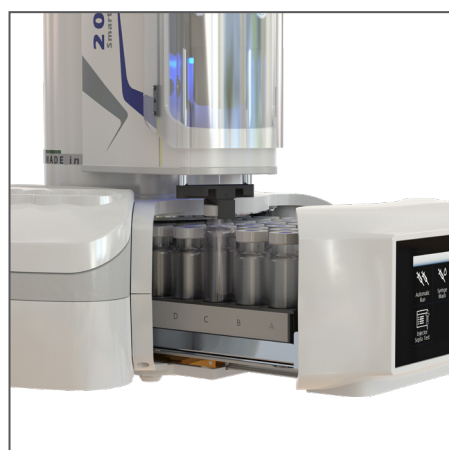
While traditional preventive maintenance ensures robustness by “over-maintaining” your equipment, EMF+ shifts the paradigm toward true intelligence. Our **AI engine** goes beyond simple counters, performing **automated self-diagnostic tests** during idle times or upon request. By analyzing the actual instrument status, EMF+ predicts maintenance needs with surgical precision. The result? The same rock-solid reliability of preventive maintenance, but at a fraction of the cost and with significantly extended uptime.



EASY SERVICE CONNECTION

You can **contact tech support by scanning a QR code** and passing all relevant information about your instrument, configuration and issue. In most cases, before you even ask a question, we will have given you the answer!

The AI engine is continuously improving as it regularly receives software updates via the internet. These updates add and improve functionalities: enable the automatic update function to always stay up to date. AI engine updates do not affect the operations of the autosamplers, so they are safe and well-accepted even in highly regulated contexts.



Vial checking



Vial gripping



Vial loading in the oven



Vial unloading after conditioning