HT2800T

ALL-IN-ONES GC AUTOSAMPLER

For headspace analysis, liquid sample injection and SPME.

TOUCH SCREEN POWERED
For exceptional ease of use

FITS ALL GC AND GC/MS
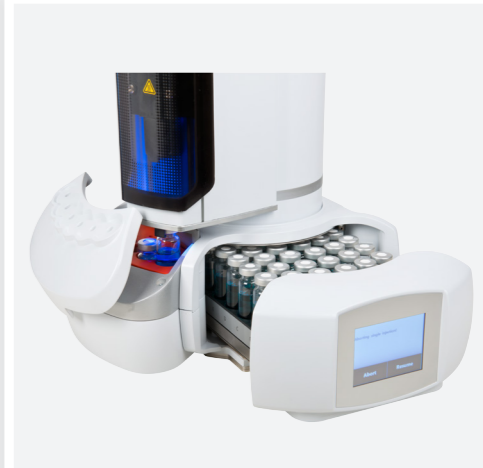For investment protection

5+5
5 minutes to switch between modalities, 5 minutes to move between GCs

SPME SUPERIOR THERMAL STABILITY

MULTIPLE POSITION INCUBATION OVEN
For ahead sample prep

LOWEST HEADSPACE TOTAL COST OF OWNERSHIP

EASY TO USE

For routine analyses, the **HT2800T features one-touch operation**. After loading the sample, you just need to enter a range of vial numbers and push the START button.

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**.

THE IDEAL CHOICE FOR YOUR GC

You don't need more than one autosampler to automate your GC. The **HT2800T** combines the functions of an autosampler for liquid, static headspace and SPME in a single unit.

Because of its flexibility, the **HT2800T can easily be installed on all the GC and GC/MS systems** available on the market, **serving up to two injectors** in most configurations.

The rotating tower leaves the injector port free for inlet maintenance. This approach keeps the **samples away from any heated source**. In fact, the sample rack is mounted away from the GC oven to prevent exposure to high temperatures, which could cause degradation or condensation in the sample vial.

SWITCH BETWEEN MODALITIES

HT2800T allows for **quick and easy switching from one application to another** on the same GC workstation. Regardless if your samples are processed in headspace, liquid, or SPME mode, or if the method requires split, splitless or on-column injection, your new instrument set-up is ready in a few minutes.

The quick switch means that there is **no transfer line to disassemble, no bulky turret to store or move across the laboratory, no complex re-alignment procedures**. It takes you less than 5 minutes to perform a few, quick, simple tasks: select new injection modality on the touch screen, change the syringe and load a new sample rack, if the application requires it. You are then ready to continue the analysis, without downtime.

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, **HT2800T** is equipped with **six-position oven** that allows the **optimization of preparation times** for headspace and SPME applications.

SMART TECHNOLOGIES FOR THE BEST USER EXPERIENCE

HT2800T benefits from a **unique portfolio of patented, proprietary or licensed technologies** that have been put together by our R&D team **to make your user experience amazing**.

To provide additional robustness to your headspace analysis, **HT2800T** features system integrity and vial leakage check functionalities. The **system integrity test** can be automatically performed with every batch of samples: going behind preventive maintenance counters, the test checks syringe and plunger integrity by a heuristic procedure to discover early system failure. Instead, the **vial leakage check** can be included to monitor the pressure inside vials of the same batch – again by a heuristic procedure – in order to check against anomalous values that are indicative of a vial leakage problem.

In addition, our **headspace syringes** – compared to the market standard – **provide an excellent performance over a large temperature range** for increased lifetime, lower cost of operations, and increased reproducibility of your headspace analysis.

To provide additional robustness to your liquid sample analysis, HT2800T features the innovative **SyringeID**, a proprietary technology based on RFID tags. The SyringeID is able to identify syringes in an univocal way; thereby preventing errors when mounting a syringe, preventing syringe volume mismatching and keeps track of the syringe consumption. The SyringeID system is able to provide you with a level of confidence never previously achieved by identification systems based on syringe carriers.

OPTIONAL SOFTWARE CONTROL

The **HT2800T** 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.

Focus: SPME

The **HT2800T** supports the **derivatisation pre- and post-extraction**, as the required by the different SPME applications. The extraction is carried out in the heated and shaken oven: the possibility of setting the shaking speed to very low allows for the minimisation of mechanical stress on the fiber.

The oven cover is kept closed during the extraction phase: this is very important to ensure temperature homogeneity, especially if the extraction time is very long.

The unit supports the post-extraction fiber washing in the liquid phase by immersion in an opportune solution, as well as the post-desorption fiber cleaning by exposition in the injector or in an external cleaning station (optional).

Focus: LIQUID

The **HT2800T** handles the **most sophisticated sampling techniques**, including the internal standard technique (also known as sandwich injection), multi-phase, priority injection, hot & cold needle, nano-litre injection and much more.

Parameters are easily programmable to optimise the most convenient sampling methods for both extremely volatile or viscous samples and the best injection technique. **Variable needle depths** allow samples to be taken from anywhere within the vial, thus performing an extractions directly from the vial.

The HT2800T features **a great solvent capacity and a wide solvent selection**: it supports the use of six solvent vials of 10ml each, giving a total capacity of 60ml.

Focus: HEADSPACE

The robotic vial processing operation allows for sample analysis in a straightforward and systematic way. 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 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.

The **HT2800T** 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.**

We offer the **lowest cost of ownership** in the market. 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.

WE HAVE THE AUTOSAMPLER TAILORED TO FIT YOUR NEEDS

HTA's GC autosampler offering is the widest and the most complete in the market: **HT2800T** is one of the seven models we currently offer. Our specialists will not oversell you: they will recommend the model that better fits your needs.

TECHNICAL SPECIFICATIONS

GENERAL FEATURES

Maintenance:	preventive counters available
	System Integrity Test[1] (optional)
Electrical control:	LAN and TTL
Target illumination:	yes
Barcode Reader:	optional
Tray capacity (Headspace/SPME):	42 vials (20ml); optional: 6 and 10ml
Tray capacity (Liquid):	121 vials (2ml)

CONDITIONING (HEADSPACE/ SPME)

Oven positions:	6
Oven temperature:	ambient; 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

HEADSPACE

Syringe volume:	2.5ml (standard); optional: 1ml
Cleaning system:	inert gas flush (inlet: 1/8"; max pressure: 1bar)
Vial Leakage Check[1]:	yes
Sampling and injection	
Syringe temperature:	ambient; 40–150°C
Sample volume:	steps of 0.01ml
Sample homogenization:	up to 15
Sample speed:	0.1–100ml/min
Other adjustable parameters:	injection speed, dwell time between injections, equilibration time, pre/post injection dwell time, enrichments

SPME

Extraction mode:	liquid phase/headspace vapors
Fiber type:	10mm, 20mm
Fiber cleaning station	
Temperature:	210-300°C
Cleaning system:	inert gas flush (inlet: 1/8"; max pressure: 1 bar)

LIQUID

Syringe volume:	0.5, 1, 5, 10, 25, 50 and 100µl
SyringeID[1:]	optional
Filling	
Sample volume:	as low as step of 0.1µl
Air volume:	as low as step of 0.1µl
Filling speed:	1-100µl/sec
Viscosity delay:	0-15s
Bubble elimination:	up to 15 pull up strokes
Injection	
Injection speed:	1-100µl/sec
Injection depth:	programmable
Pre and post inj delay:	0-99s
Washing	
Type:	pre-injection, sample, post-injection
Solvent capacity:	6x10ml vials
Mode:	single or double wash
Internal standard technique	
IS volume:	as low as step of 0.1µl
Air gap volume:	as low as step of 0.1µl
Mode:	1 or 2 air gaps

PHYSICAL FEATURES

Dimensions (WxHxD)[2]:	330x640x320mm
Weight:	10kg
Power supply:	100-240±10%Vac; 50-60Hz; 150VA

[1] Patented technology
[2] Tray and oven cover in closed position
The following functionalities are only available when using the HTA Autosampler Manager: Progressive Mode, Vial Leakage Check and CFR 21 Part 11.
SPME products are sold under license from SUPELCO under U.S. Patent 5,691,206 and/or any divisions, continuations or revisions thereof.

When it comes to designing and manufacturing robotics solutions, there's no company more dedicated, experienced and knowledgeable in the scientific industry than HTA. We offer an extensive collection of an-alyzer front-ends and sample preparation workstations designed to fit applications in analytical chemistry, life sciences and clinical laboratories; this even includes GC, LC and ICP autosamplers. HTA manufactures in Italy under a certified UNI EN ISO 9001:2015 and 13485:2016 quality management systems.

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