HT280T – Multimode Autosampler

The HT280T is a single unit combining static Headspace analysis, Liquid sample injection and SPME (Solid Phase Microextraction) The HT280T is a compact Headspace autosampler which mounts directly on top of most Gas Chromatography systems rather than taking up valuable bench space next to the GC.
A simple change of the syringe mechanism allows the unit to perform automated SPME.
It then takes just a few minutes to transform the instrument into a precision autosampler for Liquid samples.
This means that there is no longer any need for multiple autosamplers – the HT280T simply maximises the efficiency of a single GC system.

Headspace Mode

The HT280T utilises a heated syringe to transfer the samples from the 6 position orbital oven/shaker directly into the injector. This eliminates tubing, dead volume and sample absorption. Vial transport is positive and incredibly reliable – the system constantly checks that vials are present and are located in the correct place. No expensive magnetic caps are required.
No transfer lines are needed and the unit mounts directly on top of the GC, thus reducing bench space requirements. Operation is via the simple keypad or by DDS CLARITY software.
Up to 40 headspace vials of 10ml or 20ml may be stored in the standard tray.
Progressive sample preparation means that samples are automatically loaded into the oven at the correct time to ensure an injection is ready as soon as the previous run is complete – this maximises GC efficiency.
The temperature of the injection syringe is programmable along with the post injection Nitrogen flush to eliminate sample carry-over.

Liquid Mode

Up to 110 samples may be processed using one or more injection methods. Any 12x32mm vial may be used with any cap type. All parameters from the sampling depth through to the injection speed, depth and dwell times may be programmed through the front panel or via HT-COMSoft Windows™ software.
The automatic injection sequence may have up to 15 steps which can be programmed to include:

- First and last samples of group
- Injection method
- Number of injections for each sample
- Pre and Post-washing solvent position
- Internal Standard

SPME Mode

SPME is a unique sample preparation technique which eliminates most of the drawbacks associated with extracting organics. SPME requires no solvents or complicated apparatus.
SPME has gained widespread acceptance as the technique of preference for many applications including: flavours, fragrances and contaminants in food; forensic and toxicology applications; environmental and biological matrices; organic volatiles in pharmaceutical compounds.
Automated SPME with the HT280T delivers more accurate results with greater throughput than manual SPME. The HT280T can extract volatile and non-volatile compounds in both liquid and headspace samples using variable vial penetration depth. Samples can be derivatised pre or post-extraction as the application requires.
The extraction is performed by exposing the fibre into the sample vial. Samples can be agitated by orbital rotation and heated during extraction. Both the shaking speed and oven temperature are programmable. The oven door is kept closed during extraction to maintain constant temperature.
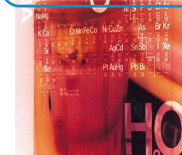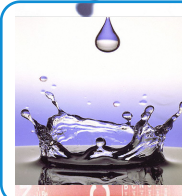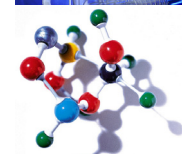After the compounds have been thermally desorbed in the GC injector, the fibre may be fully cleaned again in the optional heated fibre cleaning station positioned at the back of the unit.
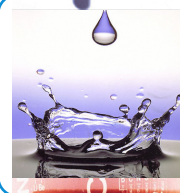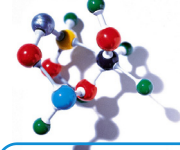
HT280T – Multimode Autosampler
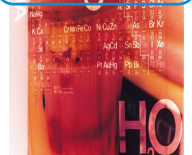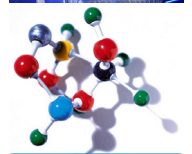
Technical Specifications - Headspace Mode

System type	X-Y
Sampling Method	Syringe
Vial volume	20 mL or 10 mL
Sample capacity	40
Cleaning System	Nitrogen flush

Conditioning

Oven Temperature	40 - 150°C
Time	0 - 23h 59m
Progressive Increase	0 - 9h 59m
Shaking Method	Orbital
Shaker Speed	320 - 720 rpm
Shaking Cycles On/Off	0 - 9.9 min

Sampling

Syringe Temperature	40 - 150°C
Pre-fill Volume	Steps of 0.01 ml
Pull Up Strokes	Up to 15 Strokes
Equilibrium Delay	Up to 60 sec
Sampling Volume	Steps of 0.01 ml
Filling Speed	0.1 - 100 ml/min

Injection

Sampling Repeats	Up to 15
Waiting Time between sample	0 - 99 min
Injection Speed	0.1 - 100ml/min
Waiting Time (before and after injection)	0 - 99 sec
Injection port	Up to 2
User interface	Keypad
Remote Control	Complete control by DDS CLARITY software
Data communication	RS232 port Start out and ready in signals
Power supply	115-220V 50-60 Hz
Dimensions (WxHxD)	420x620x400 mm
Weight	11.50 Kg

HT280T – Multimode Autosampler

Technical Specifications - Liquid Mode

System type	X-Y
Vial volume	2 mL, 10 mL
Sample capacity	110 (2 mL or 2.5 mL vials)
Solvent	4 (10 mL vials)
Waste	1 (20 mL vials)
Syringe	1, 10, 25, 50, 100 µL
Injection volume range	0.1µL - 100µL
Priority Vials	YES
Internal Standard Addition	YES
Parameter control	Pre and post injection solvent washing
	Sample/Internal Standard rinse
	Sample vial depth
	Injection depth
	Syringe strokes before injection
	Plunger sampling and injection speed
	Pre and post injection delay
	Viscosity delay
	Solvent plug volume
	Internal Standard Addition
	Sample volume
	Air plug volume
Needle washing	Up to 15 strokes
Washing mode	Every injection, Sample or step
Air bubble removing	Up to 15 strokes
Viscosity time	0 - 15 sec
Injection speed	1 - 100 µL/sec
Injection depth	variable
Injection port	Up to 2
User interface	Keypad
Remote Control	Complete control by DDS CLARITY software
Data communication	RS232 port
	Start out and ready in signals
Power supply	115-220V 50-60 Hz
Dimensions (WxHxD)	420x620x400 mm
Weight	11.50 Kg

HT280T – Multimode Autosampler

Technical Specifications - SPME Mode

System type	X-Y
Extraction	Liquid and Headspace
Vial volume	20 mL or 10 mL
Tray capacity	40
Oven Temperature	40 - 150°C
Extraction depth	Variable
Shaking Method	Orbital
Shaker Speed	320 - 720 rpm
Injection port	Up to 2
User interface	Keypad
Remote Control	Complete control by DDS CLARITY software
Data communication	RS232 port Start out and ready in signals
Power supply	115-220V 50-60 Hz
Dimensions (WxHxD)	420x620x400 mm
Weight	11.50 Kg