▶ Liquid

Liquid Sampler Key Features

- No transfer lines means no sample crossover
- Syringe may be washed with solvent or sample
- Injections may be made on two columns (high throughput and confirmation mode)
- Rotating head design leaves injection port free for manual injection
- Internal standard sampling
- Memory stores 10 different methods
- Variable fill speed allows for wide range of sample viscosities
- Sampling system eliminates air bubbles
- Programmable sampling and injection speed

The automatic injection sequence includes:

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

Liquid Sampler Operation

Specifications	
Syringe Size:	1, 10, 25, 50 & 100µl
Tray Capacity:	110 Vials, 2 or 2.5ml
Sample Volume:	Steps of 0.1 ul
Air Volume:	Steps of 0.1 ul
Aspirating Speed:	1-100ul/sec
Needle Washing:	Up to 15 Strokes
Washing Mode:	Every injection, sample or step
Air Bubble Removing:	Up to 15 Strokes
Viscosity Time:	0 - 15secs

Injection	
Injection Speed:	0.1 - 100µl/sec
Waiting Time: (before and after injection)	0 - 99secs
Injection Depth:	Variable

Internal Standard Technique	
IS Volume:	Steps of 0.1µl
Air Gap Volume:	Steps of 0.1µl
Mode:	1 or 2 air gaps

Physical Characteristics	
Dimensions (W x H x D):	16 1/2" x 24 2/5" x 15 3/4"
Mass:	25 1/3 lbs

Control	
Electrical Control:	RS232 and TTL

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Overbrook Scientific, Inc. 11 Fairmount Avenue, Suite 111 Boston, MA 02136. 617.364.7683 – fax: 617.360.9795 – overbrookscientific.com – sales@overbrookscientific.com

Overbrook Scientific is an instrumentation company specializing in the planning, installation, qualification, service, repair and maintenance of analytical instrumentation for pharma, biotech, environmental, material testing, food & beverage, GLP and cGMP facilities. Instrument Compliance Services (ICS) features innovative, multi-vendor, harmonized analytical instrumentation qualifications (IQ, OQ) for regulatory compliance that is efficient, agile and cost effective, and Engineered Instrumentation Solutions (EIS) which feature application-driven, custom configured instrumentation at standard prices and prompt turnaround. See complete service listings at www.overbrookscientific.com.

DS-HT280H1110-02

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Robotic Headspace Autosamplers

▶ HT280T Headspace, Liquid and SPME Autosampler

A single unit combining static headspace analysis, liquid sample injection and SPME (Solid Phase Micro Extraction).

The HT280T effectively combines the operations of the HT200H Headspace Autosampler and the HT300A Liquid Autosampler, with the addition of SPME. Changing between liquid, headspace and SPME modes is very simple. It takes about 5 minutes and there's no need to remove the sampler from the GC.

Headspace Operation

The system uses a heated syringe to extract headspace samples from the 6 position orbital oven/shaker. This eliminates tubing, dead volume and sample absorption. No expensive magnetic caps are required.

No transfer lines are required and the unit mounts directly on the GC thus reducing bench space requirements. Operation is via the simple keypad or by HT-COMSoft software. Up to 40 headspace vials of 20ml or 10ml may be stored in the standard tray.

Liquid Sampler Operation

Up to 110 samples may be processed as single or batch injections using one or more analysis methods. Any 12x32 mm vial may be used with any cap type. All parameters from the sampling depth through to the injection speed and depth may be programmed through the front panel or via the HT-COMSoft software.

SPME Operation

SPME is a unique sample analysis technique for complex matrices and for analytes requiring lower levels of detection. SPME eliminates most of the drawbacks associated with extracting organics. SPME requires no solvents or complicated apparatus.

▶ Key Features

- No transfer lines means no sample crossover
- Rotating head design
- Progressive sample transfer
- Multiple configuration options
- Suitable for wide range of GC's

▶ Ideally Suited For

- Residual Solvents
- Blood Alcohol
- Transformer Gas Analysis (TGA)
- Bio Diesel Fuel
- Environmental BTEX

▶ Why We Are Different!

Overbrook Scientific is an independent instrumentation company specializing in the planning, installation, qualification, service, repair and maintenance of analytical instrumentation for pharma, biotech, material testing, environmental, food & beverage labs, GLP, and cGMP facilities.

▶ SPME

SPME has gained widespread acceptance as the technique of preference for many applications including: flavors, 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 fiber into the sample vial. Samples can be agitated by orbital rotation and heated during extraction. Both the shaking speed and oven temperature are programmable.

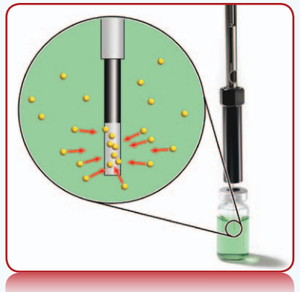
After the compounds have been thermally desorbed in the GC injector, the fiber may be fully cleaned again in the optional heated fiber cleaning station positioned at the back of the unit.

The automatic injection sequence includes:

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

SPME Key Features

- Single step extraction (reduces sample preparation time by up to 70%)
- Minimal use of solvents
- Programmable extraction depth to perform both headspace and liquid extraction
- Oven door kept closed during extraction to keep temperature constant



When placed into the headspace gas or a liquid, the compounds absorb onto the fiber.

SPME Operation

Specifications			
Extraction:	Liquid and Headspace	**Oven Temperature:**	40 - 150°C
Tray Capacity:	40 Vials, 10 or 20ml	**Shaker Speed:**	320 - 720rpm
Extraction Depth:	Variable	**Oven Door:**	Closed during extraction
Shaking Method:	Orbital	**Fiber Cleaning Station:**	Variable duration
Incubation Oven:	6 position		

Application areas for SPME

Food & Beverage
- Odors in drinking water, Antioxidants

Flavors & Fragrances
- Essential oils, Flavor compounds

Pharmaceutical / Clinical
- Drugs in biological fluids, Residual Solvents

Forensic
- Explosives residue, Drugs of abuse

Environmental
- Semi volatiles (EPA Method 625)
- VOCs (EPA Method 524.2)
- Chlorinated pesticides
- Nitrogen herbicides
- Organophosphate pesticides
- PAHs and Surfactants in water
- Carbamate and urea pesticides

▶ Headspace

Headspace Key Features

- No transfer lines means no sample crossover
- Rotating head design leaves injection port free for manual injection
- Progressive sample transfer means samples always ready when previous run completed
- May be configured for left or right operation
- Gas flush of syringe between injections

Headspace Operation

Specifications	
Shaking Method:	Orbital
Incubation Oven:	6 position
Syringe Sizes:	2.5ml
Tray Capacity:	40 Vials, 10 or 20ml
Cleaning System:	Nitrogen flush

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

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

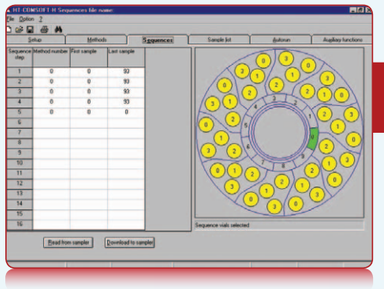
Injection	
Sampling Repeats:	Up to 15
Waiting Time between Samples:	0 - 99mins
Injection Speed:	0.1 - 100ml/min
Waiting Time: (before and after injection)	0 - 99secs

COMSoft-H

COMSoft is Microsoft Windows™ based software dedicated for communications with each type of Overbrook autosampler. The software may be run stand-alone or alongside other Windows software such as GC control and integration packages.

COMSoft enables you to

- Program the method files
- Program the sequence files
- Compile the sample list
- Print the contents of all files
- Control set up
- Graphically visualize an automatic run
- Command a single injection



COMSoft-H for HT280T Headspace, Liquid and SPME Autosampler