

Packaging - Processing

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## Thermo Scientific AI/AS 3000 II Liquid Sampling Automation

Performance and simplicity

As the next evolution in autosampling automation, the Thermo Scientific 3000 Series II is the simple choice for gas chromatography liquid sampling. Starting from an 8-position system (AI 3000 II Autoinjector) a special option allows upgrade to a 105 sample capacity autosampler (AS 3000 II). Engineered to meet the highest level requirements of ruggedness and ease of use, this product fulfills the needs of both QA/QC or high throughput environments.

Product Specifications



### Removable Trays

- AI 3000 II - The 8-position sample holder can easily be removed and replaced by another one. Each sample holder can be specifically labeled and used for sample preparation or storing.
- AS 3000 II - The 105-position rotating carousel can be easily removed and replaced for sample preparation or storage if required.

### 3000 Series II Gemini Kit

Simply and easily automate simultaneous injections on two channels (left and right) on the Thermo Scientific TRACE GC Ultra™ gas chromatograph, for double the productivity.

### Syringe Thermal Stability

The syringe is kept far away from the inlet's temperature influence. Efficient sampling of low boiling compounds is thus preserved.

### Cross-Contamination Free

Pre and Post syringe rinsing with single or combined solvents (A, B, C, D, A+B, C+D) makes carry-over non detectable.

### System Upgradability

An upgrade option is available for AI 3000 II to extend its sample throughput to the 105 sample capacity of the AS 3000 II autosampler.

### System Control

All necessary electronics are on board the sampling module. Both AI 3000 II and AS 3000 II can be controlled either through the GC's user interface or data system set-up menu.

### System Setup

Easy self-aligning, slide-in installation does not require any turret/syringe adjustment over the injector or the sample vial.

### RoHS Compliance

The AI/AS 3000 II is compliant with the latest Restriction of Hazardous Substances (RoHS) requirements for hazardous substances in electrical and electronic equipment.

## System Specifications

### Sample Loading

Sample capacity: 8 (AI 3000 II)

105 (AS 3000 II)

310 (AS 3000 II Gemini Configuration on TRACE GC Ultra with two inlets and two channels)

Vial capacity: 2 mL

Optional micro-volume vials: 300 µL

Injections/vial: 0-99

Viscosity delay: Yes/No

### Syringes

Standard: 10 µL

Optional Micro-volume: 5 µL

Optional Nano-volume: 0.5 µL

### Injection Parameters

Maximum volume: 5 µL (with the 10 µL syringe)

Minimum volume: 0.01 µL (with the 0.5 µL syringe)

Increments 0.1 µL steps (with the 0.5 µL syringe)

### Syringe Rinsing

Pre and/or Post injection: Yes

Solvent selection: Single or combined mode

Sample pre-washes: Yes

Bubble elimination: Yes

Solvent bottles: 4 x 4 mL

Waste bottle capacity: 40 mL

## Pre-set Injection Modes

### "Minimum" Needle Depth

With this option, the syringe needle penetrates only partially in the inlet. Pre and Post injection dwell times are automatically set to zero. This selection enables "Cold Needle" type injections, preventing sample boil-out from the needle. This technique requires the use of packing material in the liner to avoid incorrect evaporation of the sample. When operating in "Minimum" injection depth mode, all parameters are optimized and preset (Needle depth, Pre and Post dwell time, and Injection speed).

### "Standard" Needle Depth

Using this option, the syringe needle penetrates entirely in the inlet. This selection offers the choice of Pre and Post injection dwell times, allowing to perform Hot Empty Needle type injections with the SSL inlet. This technique does not require any packing material in the liner. It should be preferred when analyzing thermo-labile compounds. Preset parameters are needle depth and injection speed. Manually set parameters are Pre and Post injection dwell times.

## Reproducibility

Chromatographic performance: < 0.3 RSD % for C12, C16, C24 (C12-C24 alkane mix in hexane). Data obtained on 10 subsequent Splitless analyses, 1µL injected volume using "Standard" needle depth option.

