

Thermo Scientific AI/AS 1310 Liquid Sampling Automation

Performance and simplicity

As the next evolution in sampling automation, the Thermo Scientific™ AI/AS 1310 Series autosampler is the optimum choice for gas chromatography liquid injections. Ranging from an 8-position system (AI 1310 Autoinjector) to a 155 sample capacity autosampler (AS 1310), these systems are engineered to meet the highest requirements of ruggedness and ease of use and fulfill the needs of both QA/QC and high-throughput environments.



Syringe Thermal Stability

The syringe is kept away from the inlet's temperature influence so that efficient sampling of low boiling compounds is preserved.

Cross-Contamination Free

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

System Upgradability

An upgrade option is available for AI 1310 to extend its sample throughput to the 155 sample capacity of the AS 1310 autosampler.

System Control

All necessary electronics are on board the sampling module. Both AI 1310 and AS 1310 can be controlled through the 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 1310 is compliant with the latest Restriction of Hazardous Substances (RoHS) requirements for hazardous substances in electrical and electronic equipment.

Removable Trays

- AI 1310 - 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 1310 - The 155-position rotating carousel can be easily removed and replaced for sample preparation or storage if required.

AS 1310 Gemini Kit

Simply and easily automate simultaneous injections on two channels on the Thermo Scientific gas chromatographs, for double the productivity.



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System Specifications

Sample Loading Capacity

- 8 (AI 1310)
- 155 (AS 1310)
- 310 (AS 1310 Gemini Configuration on Thermo Scientific TRACE™ 1300 GC, TRACE 1310 GC, and TRACE GC Ultra)
- 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
- Minimum volume: 0.01 µL
- Increments 0.01 µL steps

Syringe Rinsing

- Pre and/or Post injection
- Solvent selection: Single or combined mode
- Sample pre-washes
- Bubble elimination
- 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 pre-volatilization from the needle. When operating in “Minimum” injection depth mode, all parameters are optimized and preset (Needle depth, Pre and Post dwell time, and Injection speed). Fast injection speed is optimized for this technique.

“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 thermally-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.

Carryover

< 0.001% measured by the residual area in a heptane blank following the injection of pure C14 and using 4 post-washes in combined solvents A+B.



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