SSI-16

Storage Sample Interface for

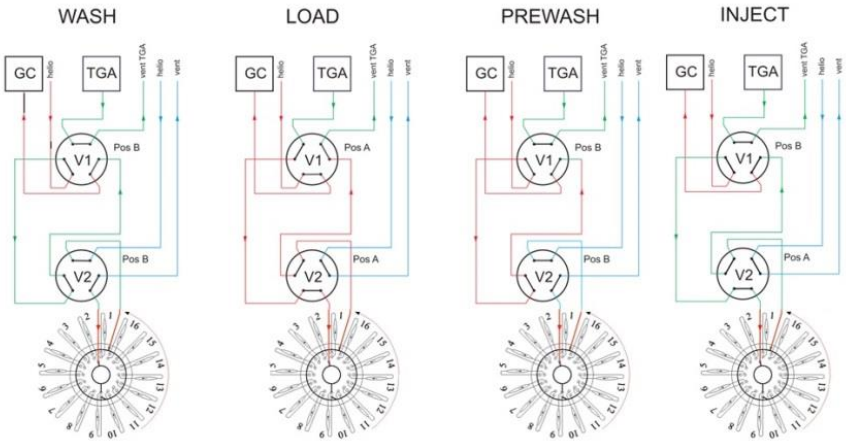
TGA-GC / MS

IngenieríaAnalítica
Chromatography & Spectrometry

Programmable Storage Sample Interface for detailed GC/MS analysis of evolved gases during Thermogravimetry (TA, TGA)

*The SSI-16 Interface is an automatic multi sample loop **S**torage **S**ample **I**nterface for coupling a TGA to a GC/MSD from any vendor.*
During the thermal degradation of material, the composition of the evolved gas varies too fast for the GC or GC-MSD device to follow properly the char, max temp. 375°C
With the SSI-16 the GC analysis duration is not anymore a limitation for the TGA profile studies.
The SSI-16 system collects samples from TGA during the thermal transition according a user-defined sequence.
Samples are consecutively stored in the loops(x 16). Once finished the collection process, the SSI-16 does a self-cleaning of the lines before starting the GC analysis sequence, Where all loops will be injected one after the other in a complete automated process .
The SSI-16 interface is controlled by software that allows setting the storage loop timetable according the TGA profile.

The instrument is fully compatible with the 7890GC from Agilent Technologies or can be adapted to other GC manufactures.



Principle of operation

The SSI-16 is composed by:

- *two heated transfer line in Sulfinert® (for TGA and GC sample collection / delivery), max temp. 375°C*
- *two six port heated valve and a heated 16-loop valve, , max temp. 375°C*

The carrier gas from the GC pass through the injection valve which is activated to direct the carrier flow to the sample loop and the GC transfer line during the sample injection.

Evolved gases are collected in the loops following the desired time table. The isolation valve allows a precise sample collection during a specific time of the thermal evolution

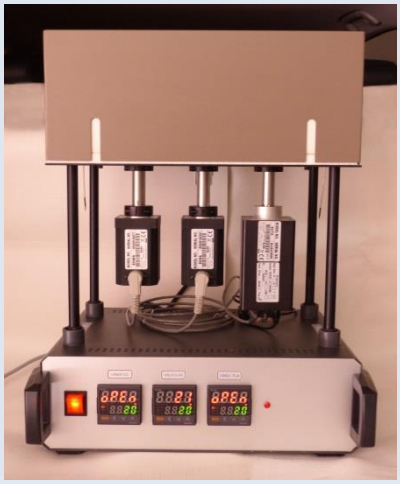
Features:
With the Storage Sample interface for TGA-GC/MS it is possible to:

Store sample in 16 loops sequentially (more loops are possible on request) The interval between each stored loop can be set by software and be equal for all your experiment or be adapted to the sample evolution profile with different storage time

Inject automatically after the collection process into the GC the stored loops, one by one.

The SSI-16 standard version (16 loops/ 250µL) includes a GSV (gas sampling valve), so a GSV in the GC is not required). The interface is connected directly to the injector in the GC (S/SL, MMI ..), without any modification of the GC injection port.

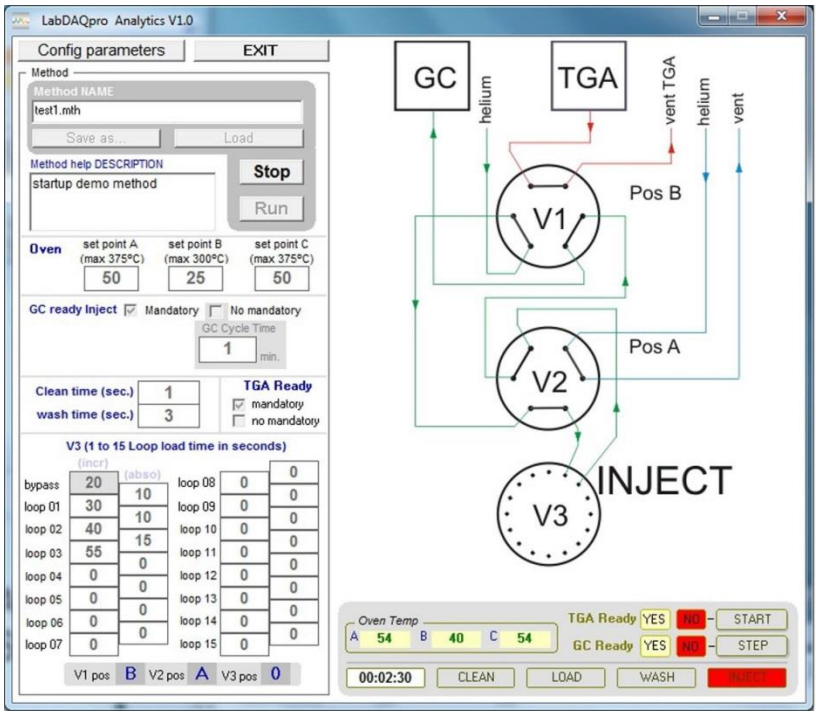
Gas connection to and from the SSI-16 are made by inert µ-volume transfer lines heated and temperature regulated. Valves assembly and loops max temperature for standard version is 350°C.



LabDAQpro Software

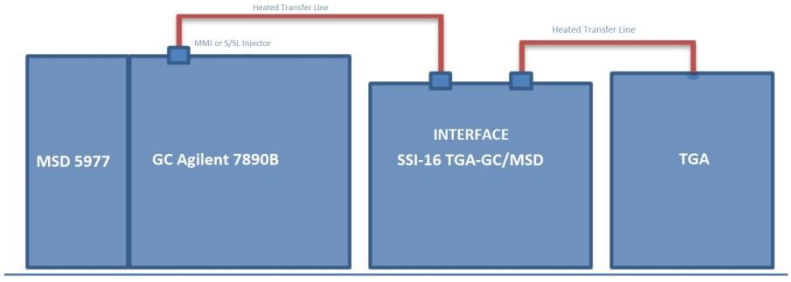
The ISS-16 is provided with its own software package.
It's possible to: edit sequences, save methods and the software is managing automatically the GC start via the remote port of the GC. Connection between ISS & Software is made over USB connection in the PC.
With Agilent Openlab Software (Chemstation or EzChromand also Masshunter), the LabDAQpro software can automatically start the runs.
The simple user-interface allows to program the collection time schedule for all the loops independently.
Times are editable in seconds.
Options allows to program
• automatic GC runs after ending the sample loop collection
• automatic loops wash sequence after GC injections
• fast injection direct mode when using a single loop combined with a fast analyzer or real time MS analyzer.

An atmospheric pressure equilibrium before injection for the loops improve the repeatability of the gas injected in the GC



Installation requirements

The ISS-16 is installed between TGA and GC. It requires 40 cm (W) of space.
Power : 220-240 VAC
GC specification : require a split/splitless inlet, remote start-in, remote ready-out PC requirements: Windows 7, Ethernet port
TGA requirements: remote start-out (contact closure)



The ISS-16 is installed between TGA and GC. It requires 40 cm (W) of bench space.

Technical features

• Number of loop: 16 in SulfinertTM material

• Number of valves: 3 (injection, storage, isolation) Automatic & manual management

• Heated zones 3 electronically regulated

• Loop volume 250µL standard

• Customized volumes on request

• Heated transfer line 1 meter x 1/16" in SulfinertTM material; T.Max 300°C

• Valve box temperature 310°C maximum standard version

• Utilities: Inert Gas for cleaning lines and loops, . 220 VAC – 1000W max.

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