HYPHENATION

Balanced Flow Interfaces

Experience Great Analysis of the Evolved Gases (EGA): Precision and High Quality Results!

A laboratory often need to analyze complex blends to determine the primary components and identify additives or contaminants.

Hyphenating two or more instruments is the most powerful approach to routine analysis and unknow mixtures, to disclose insight not possible with a single technique.

RedShift balanced flow interfaces can combine any TGA/STA with any FTIR, MS and GC instruments. The systems control flow and temperature, allowing a constant run of the evolved gases through the path. In analytical terms this means quantitative results for the detection as well as reproducible analysis without stagnation of corrosive gas in the TGA Furnace.

TG-IR Interface

Evolved gases coming from the TGA are stransferred by the high temperature transfer line to the FTIR where components can be identified.

Zero-Gravity Cell (ZGCell) design allows heavy molecular weight components elimination, providing the cell with little maintenance and more sensitive and accurate data.

TG-MS Interface

Interface design prevents gas condensation and deposition in the path allowing real-time and very sensitive analysis with a minimum level detection limit in complex compounds.

Single valve helps the analysis avoiding cold spots and carry over, catching directly what comes off in the initial weight loss. When the system is not running, the MS is flushed with Helium avoiding oxygen moisture contamination.

TG-GCMS Interface

EG is trapped in a heated sampling loop, our valves configuration helps GC separation and avoids carry over and any possible cold spots that could compromise the entire analysis. Then, the MS easy identify peaks. When the system is not running, the MS i continuously flushed with Helium.

TG-GCMS is the most powerful tool for quality control, safety and product development.

TG-IR-GCMS Interface

The system interacts between the TGA, FTIR and GCMS instruments by moving the evolved gases with high temperature transfer lines as previous interfaces.

During a thermal separation the FTIR realize a sequence of spectra, when maximum concentration absorbance is reached in the IR ZGCell, the gas is sent to the GCMS for separation and identification of peaks.

NEW E-SERIES
Digital Controller Interfaces

A New High-Performance Controller Module with Enhanced Features!

The new digital controller for balanced flow EGA interfaces has been unified in shape and dimensions and is now the same for all models.

All hyphenated systems E-Series have a 7" touchscreen display with a user-friendly firmware already installed and configured for the chosen hyphenated model. The software is web-based provided with an IP address, accessible by any PC with any browser.

ZGCell design, GSV Valves Block for GCMS or only the MS and the TGA adapters are unchanged and available for all the major Analytical Brands.

Specifications

IR Cell temperature range	Ambient-350° C
Transfer Lines (TLs) temperature range	Ambient-350° C
GSV assembly temperature range	Ambient-350° C
TGA Adapter (if heated) temp. range	Ambient-280° C
MFC controller range (ml/min)	10-200 ml/min
Controller dimensions (L x H x D cm)	29 x 26 x 50 cm

Temperature Ramp

Differentiate temperature by setting up a ramp which reduces the risk of a secondary degradation or pyrolysis due to the high temperature in the hyphenated system areas.

The functionality allows to set up a ramp during an experiment by setting start time, temperature final set point and ent time. At the end of a ramp cycle, temperatures reset to initial set point.

Fast GC & Multiple Injections

Fast GC allows very fast separation using narrow & short GC column.

E-Series controller enable multiple gas injections and separations across a single TGA experiment. Multiple inejctions can be set up using GC trigger event in your TGA SW or by developing a runtime program table to start the GC from the controller.

Other New Features

- Possibility to check and set temperatures and flow quickly, directly from the homepage.

- Easy re-calibration of the mass flow controller.

- Decide at which temperature threshold the pump is activated and timing before an automatic pump shutdown to preserve the system quality.

- Stand-by temperatures settings to switch all zones to lower temperatures when the hyphenated instrument is not in use.

- Alerts and errors panel for an immediate diagnostics.

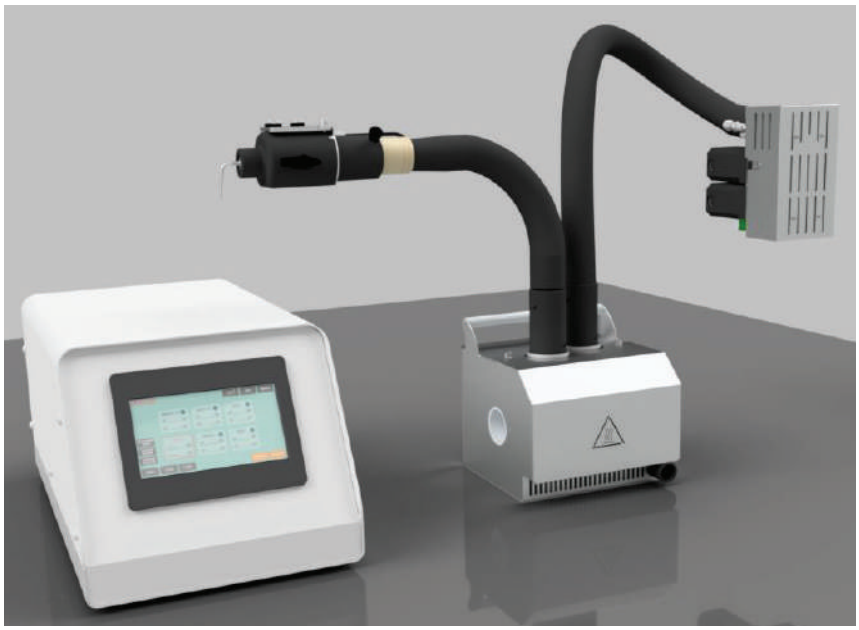

Figure. Example of TG-IR-GCMSe with digital controller