

CDS Model 5250T Trapping Pyrolysis Autosampler & 5250T Upgrade

- ▶ **Pyrolyze Samples in Any Reactant Gas**
- ▶ **Thermally Desorb Volatiles Before Pyrolyzing Sample**
- ▶ **Competitively Priced**
- ▶ **Unique Capabilities**
- ▶ **Upgrade Any 5000 Series Unit**
- ▶ **Universal Connectivity**

Combined benefits of 5200 trapping pyrolyzer & 5250 autosampler

Now, customers do not have to choose between the convenience of automation and the extra benefits of trapping. The 5250T delivers it all at a competitive price, including unique features unavailable in any other pyrolysis system. For example; pyrolysis in reactant gas (*normally py is performed in carrier gas*), slow rate pyrolysis studies, and combustion studies.

The 5250T offers all of the standard 5250 autosampler features and can be used as a normal pyrolyzer, bypassing the trap. When desired, customers can choose to pyrolyze in any other background gas including O₂, H₂ and air. The instrument connects with any model GC through our convenient heated sample line. A standard sorbent trap is included and an optional cryogenic (N₂) trap is available.

(CDS will continue to offer our standard 5250 autosampler for customers that do not require trapping. Please note that all CDS 5000 series instruments can be upgraded to the 5250T; thereby leveraging your investment in CDS quality.)



Model 5250T Product Specifications

Compatible with all GC and GCMS makes and models.

Uses a resistively heated element utilizing a coiled platinum filament for variable temperature control. This allows for fast and slow pyrolysis-heating rates that shall be programmable in degrees per millisecond, in degrees per second, and in degrees per minute.

Filament Temperature: 1°C increments to 1300°C

Heating Rates: 0.01°C/minute to 20,000°C/second

Heating Times: 0.01 second to 999.99 minutes

Interface: 1°C increments to 350°C

Trap: 1°C increments to 350°C

8 Steps per Sample: up to eight temperature profiles with a GC start per step. Allows for multiple thermal desorption or pyrolysis steps on each sample. The built-in trap shall allow the user to pyrolyze in a reactant atmosphere, such as air, trap the pyrolyzed components and then desorb them to the GC for analysis. The trap can also be used to do slow evolved gas studies on samples and be used as a thermal desorption chamber.

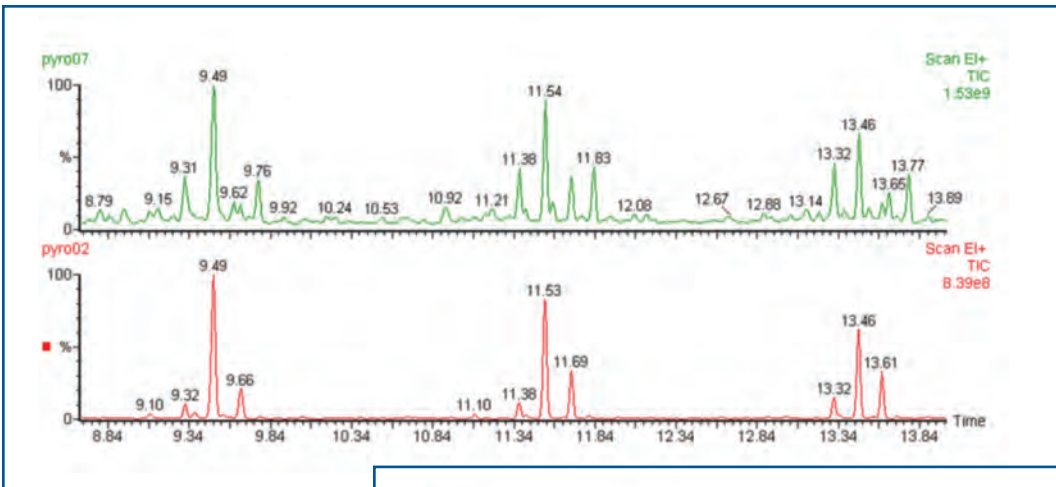
Trap Temperature: ambient to 350°C

Trap Heating Rate: 900°C/min

The 5250 Trapping Pyrolysis Autosampler can be used in any of the following modes:

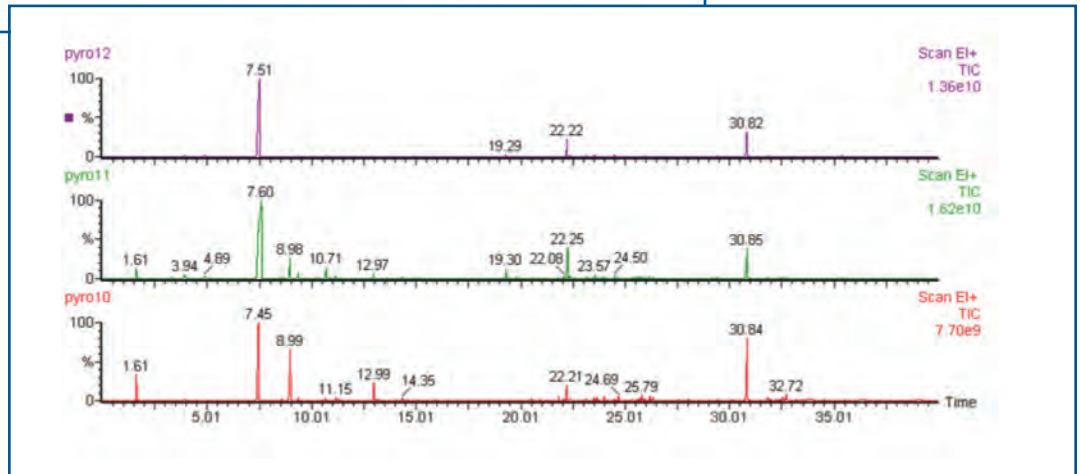
Feature	Benefit
Pyrolysis direct to GC	Provides standard Py-GC or Py-GC/MS analysis
Pyrolysis w/trapping	Allows low temperature work for thermal desorption and programmed heating rate pyrolysis
Reactant gas pyrolysis w/trapping	Permits pyrolysis in reactive atmosphere like air or oxygen
Thermal Desorption	Analyze samples at pre-pyrolysis temperatures for volatiles & semi-volatiles

Pyrolysis of PE & PS in He Compared with Air Background Gas



◀ **Comparative run of polyethylene** pyrolyzed in air (top) and He carrier gas (bottom). In addition to the normal hydrocarbon groupings containing diene, alkane, & alkane peaks respectively from the He run, Pyrolysis in air also forms oxygenated compounds including aldehydes and alcohols for each of the corresponding C chains.

▶ **Comparative runs of polystyrene** pyrolyzed in He carrier gas, fast pyrolysis in air and slow pyrolysis in air. Pyrolysis in carrier gas produces mostly monomer, dimer and trimer. When pyrolyzed in an air background, oxidized compounds are formed such as benzaldehyde and benzene-acetaldehyde. The oxidized pyrolysis products increase when the pyrolysis heating rates are slowed.



Analytical Trap

Carousel with 36 Samples

Pyrolysis Chamber