

## Three Analytical Techniques of Double-Shot Pyrolyzer® PY-2020D & iD Part 3 : Multi-Step Pyrolysis (Double-Shot Technique)

In the double-shot technique, selective thermal desorption of volatile components by programmed heating of a polymer sample is performed, followed by pyrolysis of the sample with the single-shot technique, thus providing a deferent set of information from a single polymer sample. Fig. 1 shows the sequence of operation in double-shot technique. (1) a sample cup is mounted on a double-shot sampler, which can move up and down, (2) the double-shot sampler is brought down into the heating furnace to perform thermal desorption under the temperature condition determined from the evolved gas curve<sup>1)</sup>. (3) the sampler is then pulled up to the stand-by position at which temperature is room temperature. (4) volatile components produced from the thermal desorption is analyzed by GC. During this period, the furnace is heated to a higher temperature for instant pyrolysis. Upon the completion of the thermal desorption and GC issues "READY" signal, the sample is dropped to the pyrolysis furnace by pressing the sample drop button to perform instant pyrolysis.

1) Double-Shot Pyrolyzer® Technical Note , PYT-004E

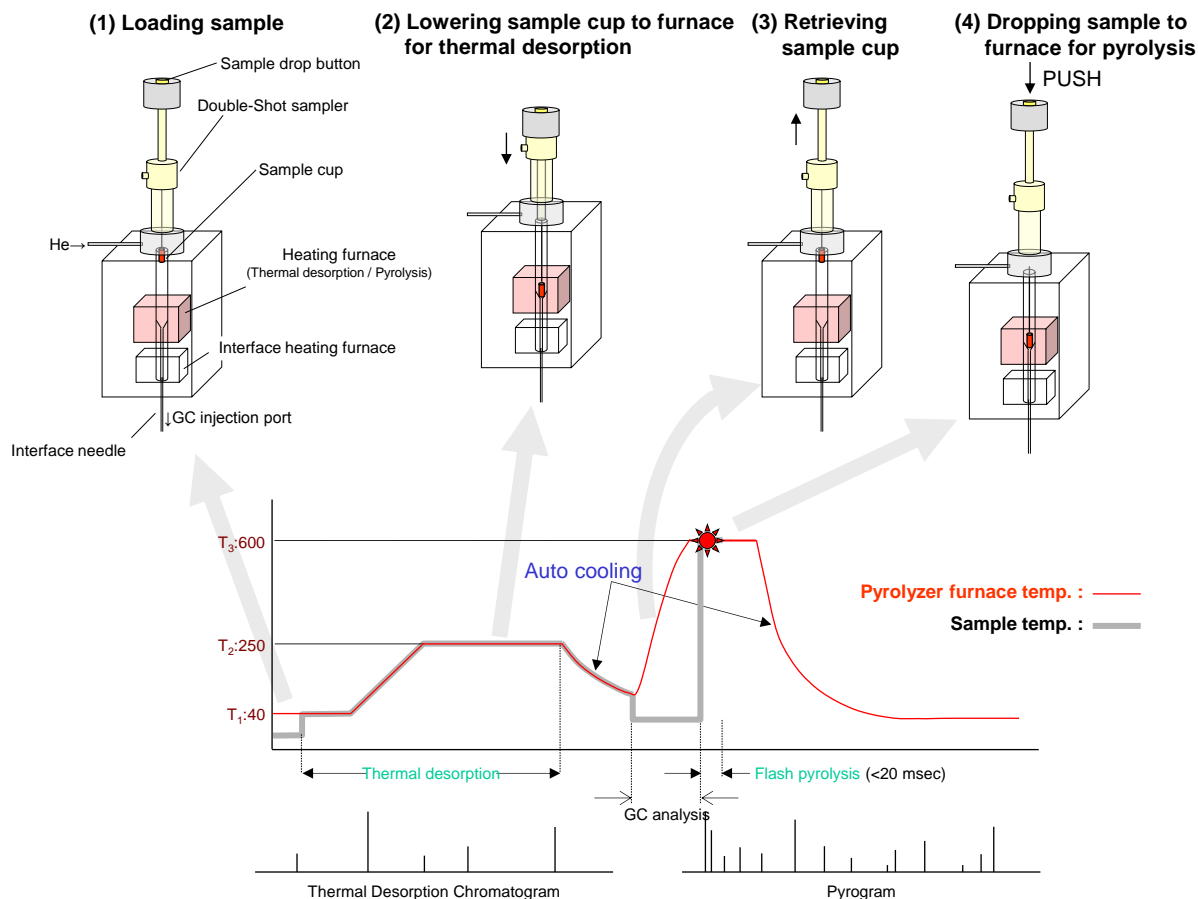


Fig. 1 Operations in Double-Shot Technique and Temperature / Chromatogram relationship

**Keywords :** Keyword : Basic Performance, Double-Shot Technique, Operation

**Products used :** Multi-functional pyrolyzer

**Applications :** Application : General Polymer Analysis

**Related technical notes :**

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