

Operational Principle of Auto Shot Sampler (AS-1020E)

Auto Shot Sampler is an automated sampling system for continuous analysis operation controlled by a PC, in which sample cups are introduced into the pyrolysis furnace by free fall action and are then retrieval by pressurized carrier gas upon analysis is complete. Fig. 1 illustrates step-by-step operations.

Sample Cup Introduction: One of the sample cups loaded in carousel moves to position A (1 in Fig. 1). Then both V2 and V1 open to allow the sample cup to drop to position B for stand by (2 in Fig.1). V2 and V1 then close and the path is purged with carrier gas for 30sec. This is followed by opening of V3 to allow the sample cup to free fall into the pyrolyzer furnace to initiate pyrolysis and analysis (3 in Fig. 1).

Sample Cup Retrieval: Once analysis is over and GC oven temperature is cooled down to the initial temperature, V1, V2, and V3 open. Then V4 opens to allow pressurized carrier gas to be introduced between the furnace and GC injection port. This will blow the sample cup up into the recovery tray (4 in Fig. 1).

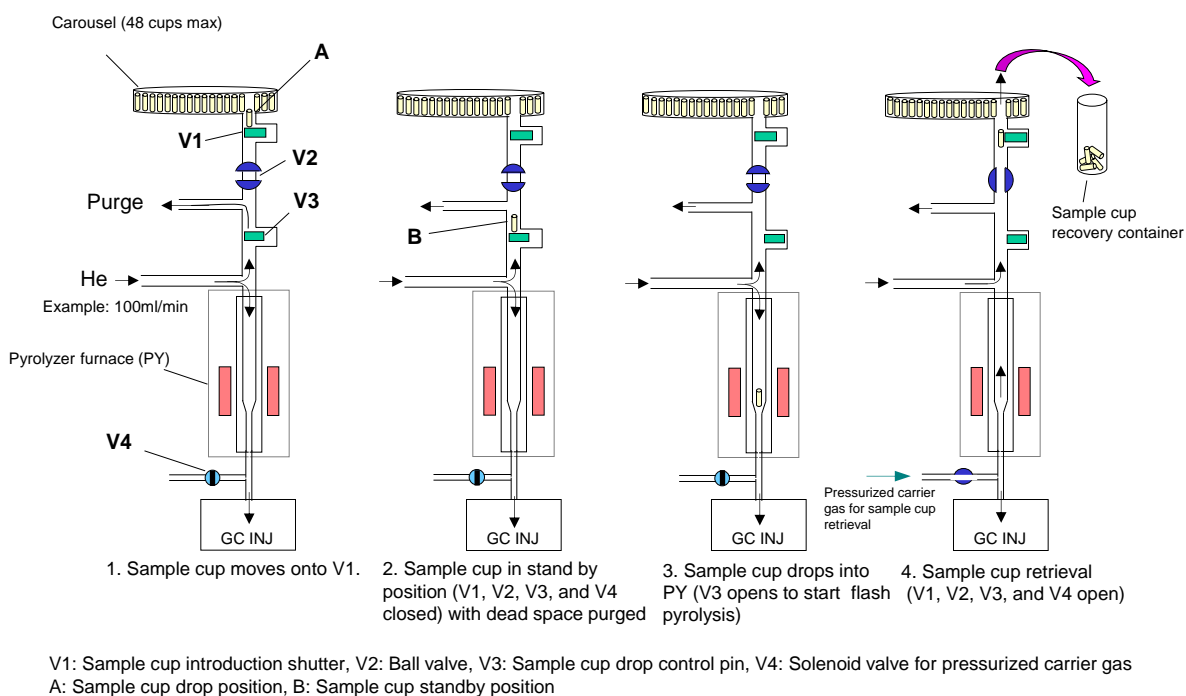


Fig. Operational Sequence of Auto Shot Sampler

Reference: Sato, et al., 5th Polymer Analysis Symposium, III-2, p71-72 (2000)

Keywords : Auto Shot Sampler, Operational Principle

Products used : Auto-Shot Sampler

Applications : General Polymer Analysis

Related technical notes :

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