

System, Method and Apparatus for Generating Pressure Pulses in Small Volume Confined Process Reactor

ABSTRACT

A plasma processing system and method includes a processing chamber, and a plasma processing volume included therein. The plasma processing volume having a volume less than the processing chamber. The plasma processing volume being defined by a top electrode, a substrate support surface opposing the surface of the top electrode and a plasma confinement structure including at least one outlet port. A conductance control structure is movably disposed proximate to the at least one outlet port and capable of restricting an outlet flow through the at least one outlet port to a first flow rate and capable of increasing the outlet flow through the at least one outlet port to a second flow rate, wherein the conductance control structure restricts the outlet flow rate moves between the first flow rate and the second flow rate corresponding to a selected processing state set by the controller during a plasma process.

FIG. 2A