ABSTRACT

MULTIPLE SPEED SLIT VALVE CONTROLLER

Described is a system designed to control the slit valve used to isolate chambers in cluster tools used in integrated circuit (IC) fabrication. This method changes the slit valve door actuator pneumatic pressure and movement during the closing sequence. As the door nears the fully closed position, its speed is reduced. This results in a soft touch landing or seating of the door and reduces the number of particles generated over systems incorporating higher pressure in the door closure. Once the door is seated in a fully closed position, higher pressure is applied to maintain a tight seal between chambers. By reducing the particles generated, the overall IC yield for both production and test wafer lots will improve. Reducing wear on the door and door seat, fewer parts such as the door, door seat and slit valve O-ring are consumed, and both scheduled and unscheduled maitenance times are shortened.

Fig. 2C