

High Strip Rate Downstream Chamber

Abstract

A gas chamber (400) contains upper (402) and lower (404) chamber bodies forming a cavity (416), a heating chuck (430) for a wafer (420), a remote gas source (440) (440), and an exhaust unit (450). Gas is injected into the cavity (416) through channels (412) in an injector (410). Each channel has sections that are bent with respect to each other at a sufficient angle to substantially eliminate entering light rays entering the channel from exiting the channel without reflection. The channels (412) have funnel-shaped nozzles at end points proximate to the chuck (430). The injector (410) also has thermal expansion relief slots (716) and small gaps between the injector (410) and mating surfaces of the chamber and gas source (440). The temperature of the injector (410) is controlled by a cooling liquid in cooling channels (412) and electrical heaters in receptacles of the injector (410). The upper (402) chamber body is funnel-shaped and curves downward at an end of the upper (402) chamber body proximate to the chuck (430).

Figure 1