

ATOMIC LAYER DEPOSITION CHAMBER WITH MULTI INJECT

Abstract

Embodiments of the invention relate to apparatus and methods for depositing materials on substrates during atomic layer deposition processes. In one embodiment, a chamber lid assembly comprises a channel having an upper portion and a lower portion, wherein the channel extends along a central axis, a housing having an inner region and at least partially defining two or more annular channels, an insert disposed in the inner region and defining the upper portion, the upper portion fluidly coupled with the two or more annular channels, and a tapered bottom surface extending from the bottom portion of the channel to a peripheral portion of the chamber lid assembly.

Fig. 1B