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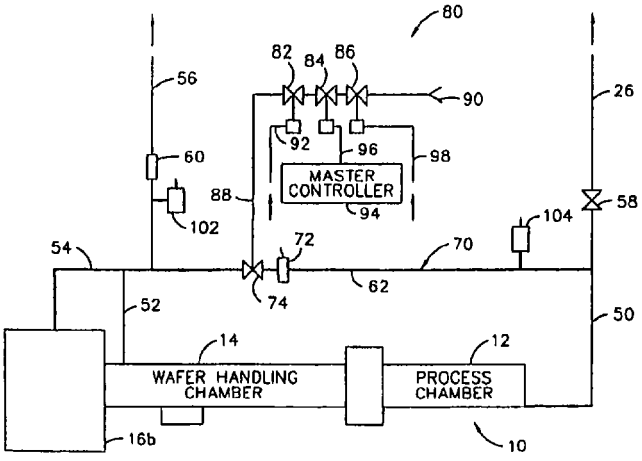
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(54) Title: PRESSURE EQUALIZATION SYSTEM FOR CHEMICAL VAPOR DEPOSITION REACTORS



(57) Abstract

A system for equalizing pressure across a gate adapted to selectively block a port connecting a wafer handling chamber to a process chamber of a reactor for depositing an epitaxial layer on a semiconductor wafer positioned in the process chamber. The system comprises a bypass passage connecting the process chamber to the wafer handling chamber for transporting gas between the process chamber and the wafer handling chamber when the gate is blocking the port connecting the wafer handling chamber to the process chamber of the reactor for equalizing pressure between the process chamber and the wafer handling chamber. The system also includes a bypass valve positioned along the bypass passage for selectively controlling gas flow through the bypass passage. In addition, the system includes a flow restrictor positioned along the bypass passage for restricting gas flow through the bypass passage to limit pressure change rates in the process chamber and the wafer handling chamber.



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