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(54) Title: SEMICONDUCTOR PROCESSING USING VAPOR MIXTURES

(57) Abstract

Processing methods and systems (10, 116, 200) using vapor phase processing streams made from a liquid phase source (22, 222, 206) and feed or dilution gas. Some systems use multiple liquid sources (140, 240, 307, 317) and multiple vapor generators (120, 220, 295) which each produce vapors which are mixed. Some of the vapor generators use metering pumps (303) to inject a controlled flow of liquid into a controlled flow of feed gas. In some embodiments the vapors are exsiccated to reduce saturation before being introduced as a processing chamber vapor mixture into a processing chamber (12). The semiconductor pieces are preferably rotated within the processing chamber and can be processed in batches.

