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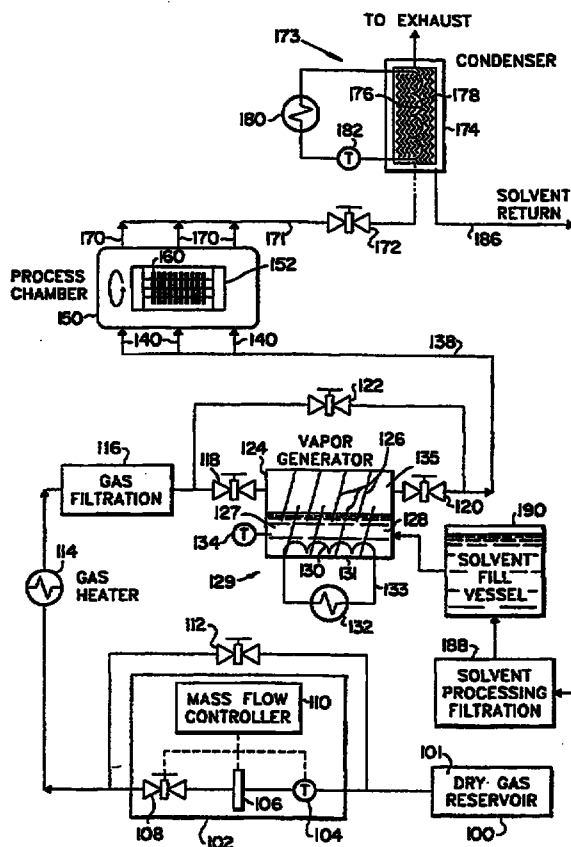
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(54) Title: VAPOR ASSISTED ROTARY DRYING METHOD AND APPARATUS



(57) Abstract: A process for drying semiconductor wafers includes loading a wafer (160) wetted with rinsing fluid into a rotor (152) and orientating the wafer along a substantially vertical plane. A gas saturated with a solvent vapor (135) is passed over the wafer surfaces until condensation forms on the wafer (160) and displaces residual fluid. The rotation of the wafer (160) by the rotor (152) at a first rotational speed aids the flushing and displacement of residual fluid. The passage of a dry gas over the wafer (160) combined with the rotation of the wafer (160) at a second rotation speed promotes drying of solvent condensed on the wafer (160). The first rotational speed is limited to a rate that does not cause the condensed solvent film to evaporate as quickly as it forms. The second rotation speed may exceed that of the first rotation speed to complete the drying of the wafer (160). The rotor (152) and process chamber (150) are optionally pre-saturated with condensed solvent vapor prior to the introduction of a wafer (160) to hasten the drying process. The process is suitable for quickly and cleanly drying patterned wafers having both hydrophobic and hydrophilic surfaces.

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