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(54) Title: CONTROLLING EXHAUST GAS PRESSURE OF A PLASMA REACTOR FOR PLASMA STABILITY

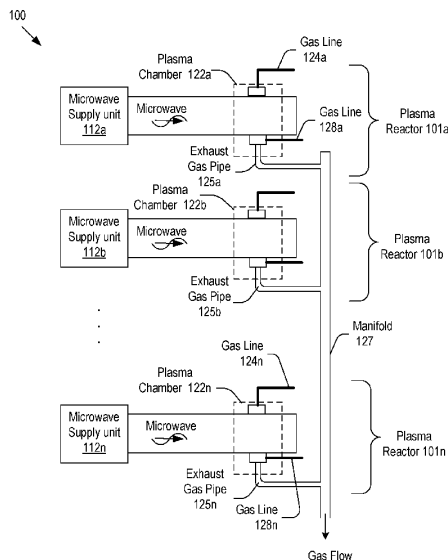


FIG. 1

(57) Abstract: The present invention provides a plasma generating system (100) having plasma reactors (101a - 101n). Each plasma reactor (101a) includes: a waveguide (120) for transmitting a microwave energy therethrough; a plasma chamber (122a) coupled to the waveguide (120) and configured to generate plasma (146) therein; a flow inlet (144) for introducing gas into the plasma chamber (122a); an exhaust gas pipe (125a) for carrying exhaust gas from the plasma chamber (122a), wherein the plasma (146) converts the gas into the exhaust gas; and a pressure control device (300) installed in the exhaust gas pipe (125a) and configured to control the pressure of the exhaust gas in the exhaust gas pipe (125a). The plasma generating system (100) also includes a manifold (127) coupled to the exhaust gas pipes (125a - 125n) of the plasma reactors (101a - 101n) and configured to receive the exhaust gas from the exhaust gas pipes (125a - 125n).

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