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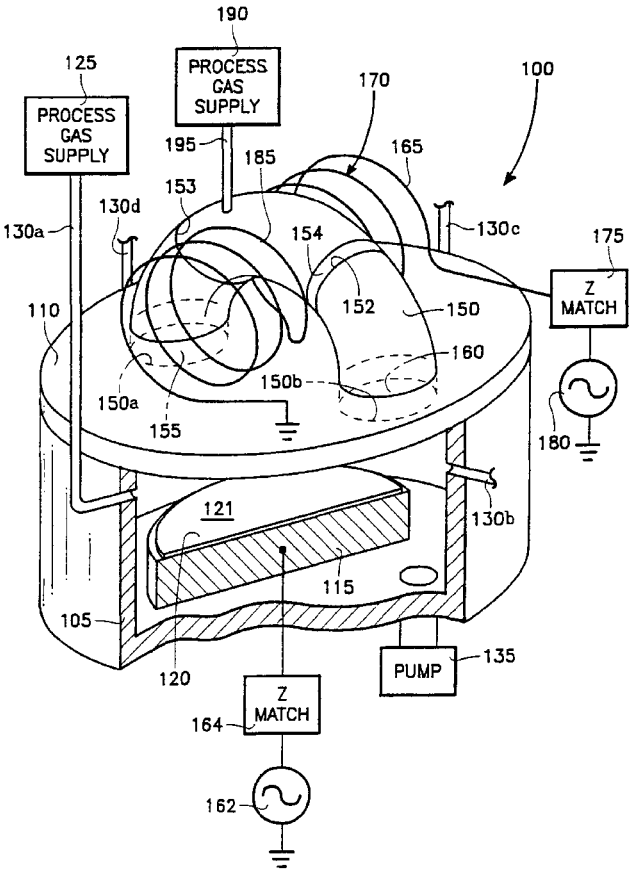
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(54) Title: EXTERNALLY EXCITED TORROIDAL PLASMA SOURCE



(57) Abstract: A plasma reactor for processing a workpiece, including an enclosure defining a vacuum chamber, a workpiece support within the enclosure facing an overlying portion of the enclosure, the enclosure having at least first and second openings therethrough near generally opposite sides of the workpiece support. At least one hollow conduit is connected to the first and second openings. A closed torroidal path is provided through the conduit and extending between the first and second openings across the wafer surface. A process gas supply is coupled to the interior of the chamber for supplying process gas to the torroidal path. A coil antenna is coupled to an RF power source and inductively coupled to the interior of the hollow conduit and capable of maintaining a plasma in the torroidal path.

WO 02/15650 A3

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