

ABSTRACT OF THE DISCLOSURE

The present invention generally provides a vacuum processing system with a process chamber and a rotating member, such as a magnetron in a PVD chamber, disposed in a cooling cavity of the process chamber, where the rotating member includes a deflection member for deflecting cooling fluid in the cooling cavity toward interior portions of the rotating member. In one embodiment, a base plate of the rotating member defines an upper surface of the rotating member and a magnet retainer defines a lower surface of the rotating member. Magnets are mounted between the base plate and the magnet retainer. The deflection member is mounted between the magnets and can be coupled to the magnets on one or both ends. One end of the deflection member is disposed toward the outer perimeter of the magnetron and the other end of the deflection member is disposed toward the interior portions of the rotating member. As the rotating member rotates, the deflection member deflects the cooling fluid from the side of the rotating member and forces the fluid into the interior portions of the rotating member. Heated fluid and/or air pockets in the interior portions are at least partially displaced by cooler fluid forced into the interior portions of the rotating member. A flow of cooling fluid provides cool fluid coming into the cooling cavity while heated fluid exits the cooling cavity.

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