

Title (en)

MUFFIN TIN STYLE CATHODE ELEMENT FOR DIODE SPUTTER ION PUMP

Title (de)

MUFFINFORMARTIGE KATHODENELEMENT FÜR EINE DIODENZERSTÄUBUNGSPUMPE

Title (fr)

ELEMENT DE CATHODE EN FORME DE MOULE A MUFFINS POUR POMPE IONIQUE DIODE

Publication

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Application

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Abstract (en)

[origin: WO0057451A2] Diode sputter ion pumps display instabilities like current bursts, leakage currents and arcs typically following pumping exposure to gas doses greater than the ultimate pressure of the vacuum system in which the pump is operating. The instabilities are disruptive to the devices to which the sputter ion pump is attached. The invention provides an ion pump that exhibits improved stability and reduced leakage current. The instabilities are caused by explosive arc emission and electron emission from structures like dendritic protrusions that grow on the cathode plate, whose shape and placement give rise to high electric fields. According to the invention the cathode includes a sputterable material for removing gases from the environment of the ion pump and shaped so that during operation of the ion pump the electric field in a dendritic growth region is insufficient to cause field emission from the dendrites thereby reducing instabilities in the operation of the ion pump.

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