

Title (en)  
ENCAPSULATED, PRESSURE-PROOF, NON-HERMETICALLY SEALED, ROTATIONALLY SYMMETRICAL HIGH-POWER SPARK GAP

Title (de)  
GEKAPSELTE, DRUCKFEST AUSGEFÜHRTE, NICHT HERMETISCH DICHT, ROTATIONSSYMMETRISCHE HOCHLEISTUNGSFUNKENSTRECKE

Title (fr)  
ÉCLATEUR À HAUTE PUISSANCE À SYMÉTRIE DE ROTATION, ÉTANCHE DE MANIÈRE NON HERMÉTIQUE, ENCAPSULÉ ET RÉSISTANT À LA PRESSION

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Abstract (en)  
[origin: WO2008080724A1] The invention relates to an encapsulated, pressure-proof, non-hermetically sealed, rotationally symmetrical high-power spark gap comprising two main electrodes positioned opposite one another at a distance, a cylindrical metallic outer housing, a gas or plasma cool-off chamber surrounded by the outer housing and connection contacts for the main electrodes, which contacts are preferably arranged on the front face. The cool-off chamber consists of a coaxial cup-shaped arrangement with an interposed meandering cooling channel. One of the main electrodes is configured as a hollow-cylindrical expulsion electrode the lateral openings of which extend into the cool-off chamber. The cooling channel comprises a plurality of independent vent openings or communicates with such openings. The invention is characterized in that a first vent opening communicates directly with the base of the arc channel, said vent opening being configured by a threaded section or a bore of one of the connection contacts. The other vent openings are located in zones where cooled gases are present which have been cooled by deviation and heat-exchanging contact with the cup-shaped arrangement. The cross-sectional area of the lateral openings of the expulsion electrode is larger than the cross-sectional area of the arc formation chamber, thereby reducing electrode consumption.

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