

Title (en)

METHOD AND DEVICE FOR POWER BRAKING WITH A FLUID-OPERATED LIQUID METAL CURRENT SWITCH

Title (de)

VERFAHREN UND VORRICHTUNG ZUR STROMSCHALTUNG MIT EINEM FLUIDBETRIEBENEN FLÜSSIGMETALL-STROMSCHALTER

Title (fr)

PROCEDE ET DISPOSITIF PERMETTANT DE COUPER LE COURANT AU MOYEN D'UN INTERRUPTEUR DE COURANT A METAL LIQUIDE ACTIONNE PAR UN FLUIDE

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Application

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Abstract (en)

[origin: WO2005006368A1] The invention relates to a method and a device (1) for current limitation and/or power braking and to a switchgear having said device (1). According to the invention, a liquid metal (3) is moved by a dielectric fluid drive mechanism (12) with a control device (11) between a first current path for a nominal current (I1), a second current path (31) for current limitation (12) and optionally a third current path (32) for power braking (i=0), wherein the working fluid (9) exerts a mechanical influence directly upon a surface (3b) of the liquid metal (3) with a predetermined drive pressure (p1, p2). Examples of embodiments are, inter alia, an insulating gas (9) or insulating fluid (9) as drive fluid (9); a pressure drive (12) with pressure vessels (121-124) and valves (10) or a piezo drive mechanism (12) for the working fluid (9); and design criteria for liquid metal array (3a, 4), drive pressure (p1, p2) and piezo drive mechanism (12). Amongst the advantages are reversible current limitation and power braking, which is also suitable for high currents and voltages, rapid reaction times, little wear and easy maintenance.

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