

Title (en)

METHOD AND DEVICE FOR THE ELECTROMAGNETIC STIRRING OF ELECTRICALLY CONDUCTIVE FLUIDS

Title (de)

VERFAHREN UND EINRICHTUNG ZUM ELEKTROMAGNETISCHEN RÜHREN VON ELEKTRISCH LEITENDEN FLÜSSIGKEITEN

Title (fr)

PROCÉDÉ ET MODULE D'AGITATION ÉLECTROMAGNÉTIQUE DE LIQUIDES ÉLECTRIQUEMENT CONDUCTEURS

Publication

EP 2178661 A1 20100428 (DE)

Application

EP 08801099 A 20080801

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Abstract (en)

[origin: WO2009018810A1] The invention relates to a method and to a device for the electromagnetic stirring of electrically conductive fluids (2), using a magnetic field RMF (34) rotating in the horizontal plane and a magnetic field WMF (47) migrating in the vertical direction relative thereto. The aim is to avoid non-symmetrical flow structures in receptacles filled with melts, particularly at the onset and during the course of solidification. In addition, effective mixing of the fluid and/or controlled solidification of metal alloys are to be achieved, while avoiding the formation of segregation zones in the solidifying structure. The solution is that both the rotating magnetic field RMF (34) and the migrating magnetic field WMF (47) are discontinuously connected in the form of temporally limited and adjustable period durations (TP,RMF,TP,WMF) and alternately, consecutively in time, via associated induction coils (31, 32, 33; 41, 42, 43, 44, 45, 46).

IPC 8 full level

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