Title (en)

ELECTROMAGNETIC INDUCTOR WITH FERRITE CORE FOR HEATING ELECTRIC CONDUCTING MATERIAL

Publication

EP 0482635 A3 19930203 (FR)

Application

EP 91118152 A 19911024

Priority

US 60315090 A 19901025

Abstract (en)

[origin: EP0482635A2] The present induction-heating device (10) serves for heating electrically conducting materials up to temperatures exceeding 300 DEG C. The device (10) comprises an open core (12) made of a ferric material. A Litz wire coil (15) is wound around the core (12). A power source (17) is connected to the ends (16) of the coil (15) so as to produce an excitation current in the latter, inside a frequency range varying from 12 to 25 kHz, in such a way as to generate a magnetic field when magnetised. Magnetic flux concentrator tubes (18) made of an electrically conducting material are arranged around the coil (15) and near the core (12), and are embedded in a material (19) which conducts heat but does not conduct electricity, for the purpose of maximising the useful flux. A cooling fluid circulates through the concentrator tubes (18) so as to cool the tubes (18), the core (12) and the coil (15). An induction zone is defined by the magnetic field generated between the opposing poles (13, 13') of the core (12) and penetrating the surface of the part to be heated. The part is heated by the eddy currents generated by the variable magnetic field on the surface. <IMAGE>

IPC 1-7

H05B 6/36; H05B 6/42; H05B 6/14

IPC 8 full level

H05B 6/14 (2006.01); **H05B 6/36** (2006.01); **H05B 6/42** (2006.01)

CPC (source: EP US)

H05B 6/145 (2013.01 - EP US); **H05B 6/365** (2013.01 - EP US); **H05B 6/42** (2013.01 - EP US)

Citation (search report)

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- [A] GB 2226221 A 19900620 - BLUM GMBH & CO E [DE]
- [A] EP 0196264 A2 19861001 - BELOIT CORP [US]
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EP1768462A3; US7767941B2

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR IT LI LU NL SE

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EP 0482635 A2 19920429; **EP 0482635 A3 19930203**; CA 2093786 A1 19920426; US 5101086 A 19920331

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