

Title (en)

INDUCTION CRUCIBLE FURNACE AND MAGNETIC RETURN ELEMENT THEREFOR

Title (de)

INDUKTIONSTIEGELOFEN UND MAGNETISCHER RÜCKSCHLUSS HIERFÜR

Title (fr)

FOUR À CREUSETS À INDUCTION ET CULASSE MAGNÉTIQUE ASSOCIÉE

Publication

EP 3345453 A1 20180711 (DE)

Application

EP 16790512 A 20160802

Priority

- DE 102015011433 A 20150901
- DE 102015015337 A 20151126
- DE 2016000301 W 20160802

Abstract (en)

[origin: WO2017036438A1] The invention relates to an induction crucible furnace and to a magnetic return element for an induction crucible furnace. The induction crucible furnace has a corresponding coil and a plurality of magnetic return elements, which are designed in the form of individual units arranged on the outer lateral surface of the coil with peripheral spacing. In order to guide the magnetic flux produced by the coil, the magnetic return elements each have an assembly consisting of a plurality of elongate individual elements of magnetically permeable material that are electrically insulated from each other and extend parallel to the furnace axis. Said individual elements consist at least partially of bars, which are electrically insulated from each other and the longitudinal axes of which extend parallel to the furnace axis. In this way, both eddy currents that hit the assembly from the radial direction and eddy currents that hit the assembly with a transverse component are minimized.

IPC 8 full level

H05B 6/24 (2006.01); **H05B 6/36** (2006.01)

CPC (source: EP US)

F27B 14/063 (2013.01 - EP US); **H05B 6/24** (2013.01 - EP US); **H05B 6/365** (2013.01 - EP US); **H05B 6/367** (2013.01 - EP US); **F27B 2014/0862** (2013.01 - EP US); **F27B 2014/102** (2013.01 - EP US)

Citation (search report)

See references of WO 2017036438A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

DE 102015015337 A1 20170302; **DE 102015015337 B4 20180621**; CN 107926087 A 20180417; CN 107926087 B 20201208; EP 3345453 A1 20180711; EP 3345453 B1 20201007; HK 1253937 A1 20190705; US 10887953 B2 20210105; US 2018242409 A1 20180823; WO 2017036438 A1 20170309

DOCDB simple family (application)

DE 102015015337 A 20151126; CN 201680050444 A 20160802; DE 2016000301 W 20160802; EP 16790512 A 20160802; HK 18113087 A 20181012; US 201615751851 A 20160802