Title (en)

MANUFACTURING DEVICE AND METHOD FOR ADDITIVE MANUFACTURING OF A COMPONENT FROM A POWDER MATERIAL, AND METHOD FOR PRODUCING A SPECIFIC INTENSITY PROFILE OF AN ENERGY BEAM

Title (de)

FERTIGUNGSEINRICHTUNG UND VERFAHREN ZUM ADDITIVEN HERSTELLEN EINES BAUTEILS AUS EINEM PULVERMATERIAL, SOWIE VERFAHREN ZUM ERZEUGEN EINES BESTIMMTEN INTENSITÄTSPROFILS EINES ENERGIESTRAHLS

Title (fr)

DISPOSITIF DE FABRICATION ET PROCÉDÉ DE FABRICATION ADDITIVE D'UN COMPOSANT À PARTIR D'UN MATÉRIAU EN POUDRE, ET PROCÉDÉ DE PRODUCTION D'UN PROFIL D'INTENSITÉ SPÉCIFIQUE D'UN FAISCEAU D'ÉNERGIE

Publication

EP 4185428 A1 20230531 (DE)

Application

EP 21754723 A 20210721

Priority

- DE 102020209173 A 20200721
- DE 102020006217 A 20201009
- DE 102020128807 A 20201102
- DE 102020131032 A 20201124
- EP 2021070411 W 20210721

Abstract (en)

[origin: WO2022018148A1] The invention relates to a manufacturing device (1) for additive manufacturing of components from a powder material, comprising a beam generation device (3) designed to generate an energy beam (5), a scanner unit (7) designed to move the energy beam (5) within a working area (9) to a plurality of irradiation positions (11) to produce, by means of the energy beam (5), a component from the powder material in the working area (9), a deflection unit (13) designed to move the energy beam (5) in an irradiation position (11) of the plurality of irradiation positions (11) within a beam region (15) to a plurality of beam positions (17), and a control unit (19), which is operatively connected to the deflection unit (13) and is designed to control the deflection unit (13) and to produce a specific beam profile in the beam region (15) by specifying at least on operation parameter of the deflection unit (13), the at least one operating parameter being selected from the group consisting of: a dwell time in a beam position (17), a beam position density distribution in the beam region (15), a frequency distribution of the beam positions (17), and an intensity-influencing parameter for influencing the relevant intensity of the energy beam (5) deflected to the beam positions (17).

IPC 8 full level

B22F 10/28 (2021.01); **B22F 10/36** (2021.01); **B22F 12/41** (2021.01); **B22F 12/49** (2021.01); **B23K 26/064** (2014.01); **B23K 26/067** (2006.01); **B29C 64/153** (2017.01); **B29C 64/264** (2017.01); **B29C 64/268** (2017.01); **B29C 64/273** (2017.01); **B33Y 10/00** (2015.01); **B33Y 30/00** (2015.01); **G02F 1/00** (2006.01)

CPC (source: EP US)

B22F 10/28 (2021.01 - EP); **B22F 10/36** (2021.01 - EP); **B22F 10/366** (2021.01 - US); **B22F 12/49** (2021.01 - EP US); **B23K 26/064** (2015.10 - EP); **B23K 26/0643** (2013.01 - EP); **B23K 26/0648** (2013.01 - EP); **B23K 26/0652** (2013.01 - EP); **B23K 26/0676** (2013.01 - US); **B23K 26/073** (2013.01 - US); **B23K 26/082** (2015.10 - EP); **B23K 26/342** (2015.10 - EP); **B29C 64/268** (2017.07 - EP); **B29C 64/393** (2017.07 - EP); **B33Y 10/00** (2014.12 - EP US); **B33Y 30/00** (2014.12 - EP US); **B33Y 50/02** (2014.12 - EP US); B22F 12/44 (2021.01 - EP); B22F 2203/03 (2013.01 - US); Y02P 10/25 (2015.11 - EP)

Citation (search report)

See references of WO 2022018148A1

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

WO 2022018148 A1 20220127; CN 116133776 A 20230516; EP 4185428 A1 20230531; US 2023147300 A1 20230511

DOCDB simple family (application)

EP 2021070411 W 20210721; CN 202180061337 A 20210721; EP 21754723 A 20210721; US 202318149175 A 20230103