

Title (en)

MANUFACTURING DEVICE, METHOD AND COMPUTER PROGRAM PRODUCT FOR ADDITIVELY MANUFACTURING COMPONENTS FROM A POWDER MATERIAL

Title (de)

FERTIGUNGSEINRICHTUNG, VERFAHREN UND COMPUTERPROGRAMMPRODUKT ZUM ADDITIVEN FERTIGEN VON BAUTEILEN AUS EINEM PULVERMATERIAL

Title (fr)

DISPOSITIF DE FABRICATION, PROCÉDÉ ET PRODUIT PROGRAMME D'ORDINATEUR POUR LA FABRICATION ADDITIVE DE COMPOSANTS À PARTIR D'UN MATÉRIAUX EN POUDRE

Publication

**EP 4200096 A1 20230628 (DE)**

Application

**EP 21766143 A 20210818**

Priority

- DE 102020210724 A 20200824
- EP 2021072972 W 20210818

Abstract (en)

[origin: WO2022043164A1] The invention relates to a manufacturing device (1) for additively manufacturing components (3) from a powder material, comprising - a beam generation device (5) for generating a plurality of energy beams (7), - a scanner device (9) for at least intermittently irradiating a work region (11) in locally selective fashion by means of the energy beams (7), - an inert gas device (15) for generating an inert gas flow with a defined inert gas flow direction (P1), and comprising - a control device (17) configured to control the scanner device (9), wherein - the control device (17) is further configured to: define a first irradiated area (19.1) on the work region (11) for a first energy beam (7.1), a first irradiated portion (21.1) for the first energy beam (7.1) being displaced along said irradiated area from a first start position to a first end position within the first irradiated area (19.1); - define upstream of the first irradiated area (19.1) a second irradiated area (19.2) for a second energy beam (7.2), a second irradiated portion (21.2) for the second energy beam (7.2) being displaced along said second irradiated area from a second start position to a second end position, and to: - start an irradiation of the second irradiated area (19.2) with the second energy beam (7.2) once the first irradiated portion (21.1) and the second start position are not arranged relative to one another within an interaction zone determined by the inert gas flow direction.

IPC 8 full level

**B22F 10/28** (2021.01); **B22F 10/322** (2021.01); **B22F 10/366** (2021.01); **B22F 12/45** (2021.01); **B22F 12/49** (2021.01); **B22F 12/70** (2021.01); **B29C 64/153** (2017.01); **B29C 64/268** (2017.01); **B29C 64/282** (2017.01); **B29C 64/371** (2017.01); **B29C 64/393** (2017.01); **B33Y 10/00** (2015.01); **B33Y 30/00** (2015.01); **B33Y 50/02** (2015.01)

CPC (source: EP US)

**B22F 10/28** (2021.01 - EP US); **B22F 10/31** (2021.01 - US); **B22F 10/322** (2021.01 - EP); **B22F 10/366** (2021.01 - EP US); **B22F 12/45** (2021.01 - EP US); **B22F 12/49** (2021.01 - EP US); **B22F 12/70** (2021.01 - EP US); **B22F 12/90** (2021.01 - US); **B33Y 10/00** (2014.12 - EP US); **B33Y 30/00** (2014.12 - EP US); **B33Y 50/02** (2014.12 - EP US); **B22F 2998/10** (2013.01 - US); **Y02P 10/25** (2015.11 - EP)

Citation (search report)

See references of WO 2022043164A1

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)

**DE 102020210724 A1 20220224**; EP 4200096 A1 20230628; US 2023191496 A1 20230622; WO 2022043164 A1 20220303

DOCDB simple family (application)

**DE 102020210724 A 20200824**; EP 2021072972 W 20210818; EP 21766143 A 20210818; US 202318169914 A 20230216