

Title (en)
RAPID MANUFACTURING METHOD AND DEVICE FOR THE SAME COMPRISING OPPOSITELY-DIRECTED PROTECTIVE GAS STREAMS
PARALLEL TO THE POWDER LAYER

Title (de)
GENERATIVES HERSTELLUNGSVERFAHREN UND VORRICHTUNG HIERZU MIT ENTGEGENGESETZT GERICHTETEN
SCHUTZGASSTRÖMEN PARALLEL ZUR PULVERSCHICHT

Title (fr)
PROCÉDÉ DE FABRICATION GÉNÉRATIF ET DISPOSITIF ASSOCIÉ, COMPRENANT DES FLUX DE GAZ PROTECTEUR DIRIGÉS DANS DES
SENS OPPOSÉS PARALLÈLEMENT À LA COUCHE DE POUDRE

Publication
EP 3160669 A1 20170503 (DE)

Application
EP 15729751 A 20150429

Priority
• DE 102014212100 A 20140624
• DE 2015000206 W 20150429

Abstract (en)
[origin: WO2015197039A1] The present invention relates to a device and a method for the rapid manufacturing of components through the layered bonding of powder particles to each other and/or to a semi-finished product or substrate already produced, using selective interaction of the powder particles with a high-energy beam (13), wherein, during the bonding of the powder particles into a layer made of powder particles with the aid of the high-energy beam, a gas flow (7) which has a current direction having a directional component directed at least partially parallel to the layer of the powder particles is provided across the layer of powder particles and/or the bonding area in the layer of powder particles, wherein the directional component of the gas flow (7) directed at least partially parallel to the layer of powder particles during the bonding of the powder particles in a layer is generated in at least two directions which have oppositely-directed directional components.

IPC 8 full level
B22F 3/105 (2006.01); **B29C 67/00** (2017.01)

CPC (source: EP US)
B22F 3/1007 (2013.01 - US); **B22F 10/28** (2021.01 - EP US); **B22F 10/32** (2021.01 - EP US); **B22F 10/322** (2021.01 - EP US); **B22F 12/70** (2021.01 - EP US); **B29C 64/153** (2017.07 - EP US); **B29C 64/371** (2017.07 - EP US); **B33Y 10/00** (2014.12 - EP US); **B33Y 30/00** (2014.12 - EP US); **B22F 2999/00** (2013.01 - EP); **Y02P 10/25** (2015.11 - EP US)

Citation (search report)
See references of WO 2015197039A1

Citation (examination)
• DE 102014209161 A1 20151119 - EOS ELECTRO OPTICAL SYST [DE]
• WO 2014199149 A1 20141218 - RENISHAW PLC [GB]
• EP 3685941 A1 20200729 - RENISHAW PLC [GB]
• DE 102004031881 A1 20060126 - CONCEPT LASER GMBH [DE]

Cited by
CN108883574A

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 102014212100 A1 20151224; EP 3160669 A1 20170503; US 10442001 B2 20191015; US 2017136696 A1 20170518;
WO 2015197039 A1 20151230

DOCDB simple family (application)
DE 102014212100 A 20140624; DE 2015000206 W 20150429; EP 15729751 A 20150429; US 201515320131 A 20150429