

Title (en)
PRESSURE REACTOR FOR PRODUCING MATERIALS HAVING DIRECTED POROSITY

Title (de)
DRUCKREAKTOR ZUR HERSTELLUNG VON MATERIALIEN MIT GERICHTETER POROSITÄT

Title (fr)
RÉACTEUR SOUS PRESSION POUR LA PRODUCTION DE MATÉRIAUX À POROSITÉ DIRIGÉE

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Application
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Abstract (en)
[origin: WO2015059531A1] The pressure reactor for producing materials having directed porosity is made in such a manner that the pressure chamber (1) has an external cooling jacket (2) and the vacuum valve (19), while inside of the pressure chamber (1), that is, preferably, made in a shape of a seamless tube, a removable, replaceable, demountable crystallizer (4) is attached to one cover (3), while to the second cover (5) the melting furnace (6) with an internal removable crucible (7) is attached and further the heater (16) in a form of a heating element encapsulated with an insulation (17) having the form of ceramic beads is provided between the inner housing of the melting furnace (6) and the crucible (7), the drain hole (8) of which is directed in the direction of the inlet filling hole (9) of the crystallizer (4), and wherein the intermediate element (10), preferably in the form of a conical funnel, is fastened between the melting furnace (5) and the crystallizer (4), wherein the pressure chamber (1) is mounted in a supporting frame (11) in a manner allowing its rotation around its transverse axis passing through its centre of the symmetry. The crystallizer (4) is constructed in such a way that its base (12) is made of a material with a high thermal conductivity, and the side walls (13) are made of insulating material or in such a manner that the base (12) is made of an insulating material, while its side walls (13) are made of a material with high thermal conductivity, and the base (12) of the crystallizer (4) is in direct contact with the cover (3) or the additional insulating material (15) is arranged between the cover (3) and the base (12) of the crystallizer (4). Thermocouples are arranged in the melting furnace (6) and in the crystallizer (4).

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