

Title (en)
TEMPERATURE-CONTROL DEVICE FOR A STACK-LIKE ENERGY STORE OR CONVERTER, AND A FUEL CELL STACK HAVING A TEMPERATURE-CONTROL DEVICE OF SAID TYPE

Title (de)
TEMPERIERVORRICHTUNG FÜR EINEN STAPELARTIGEN ENERGIESPEICHER ODER -WANDLER SOWIE EIN BRENNSTOFFZELLENSTAPEL MIT EINER SOLCHEN TEMPERIERVORRICHTUNG

Title (fr)
DISPOSITIF DE THERMORÉGULATION POUR UN ACCUMULATEUR OU CONVERTISSEUR D'ÉNERGIE SE PRÉSENTANT SOUS LA FORME D'UN EMPILEMENT ET EMPILEMENT DE CELLULES ÉLÉMENTAIRES COMPORTANT UN TEL DISPOSITIF DE THERMORÉGULATION

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Application
EP 21765574 A 20210806

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Abstract (en)
[origin: WO2022033994A1] The present invention relates to a temperature-control device for controlling the temperature of a stack-like energy store or converter formed from multiple cells, comprising multiple plate-like heat-conducting elements arranged between the cells, wherein the temperature of the cells is controlled by heat conduction via the plate-like heat-conducting elements, multiple temperature-control ribs which are arranged outside the cells and which serve for changing the flow direction of the temperature-control air flow, wherein the temperature-control ribs are thermally coupled to the heat-conducting elements, and wherein the temperature of the plate-like temperature-control ribs is controlled by means of convection by impingement of a temperature-control air flow and/or by heat conduction via further means, the means for influencing the temperature-control air flow and/or for temperature-control air guidance, which means are configured to change a flow direction and/or a flow speed of the temperature-control air flow, wherein the means are structurally configured and/or arranged such that several of the temperature-control ribs can be impinged on by a temperature-control air volume flow such that a majority of the cells are approximately uniformly heatable or coolable in a cell centre, and wherein the means for influencing the temperature-control air flow and/or for temperature-control air guidance comprise one and preferably two or more of the following components: at least one further temperature-control rib, the shape and/or arrangement of which differs from the shape and/or the arrangement of the other temperature-control ribs, and/or at least one resistance element for changing the temperature-control air flow by locally distributing pressure losses and/or by generating turbulence, and/or at least one temperature-control air guide element for further changing the flow direction and/or the flow speed of the temperature-control air flow in relation to the change of the flow direction and/or the flow speed of the temperature-control air flow by the temperature-control ribs, and/or at least one temperature-control element, which is configured as a heat exchanger.

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