

Title (en)
SPIRAL HEAT EXCHANGER

Title (de)
SPIRALENFÖRMIGER WÄRMETAUSCHER

Title (fr)
ECHANGEUR THERMIQUE EN SPIRALE

Publication
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Application
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Priority
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Abstract (en)
[origin: WO9207226A1] Spiral heat exchanger provided with a cylindrical casing (4), inside which a first medium can flow through, and a channel (1) which runs as a spiral around the cylinder axis and through which a second medium can flow. In addition to the one spiral channel and in each case alternating therewith, at least one additional spiral channel (2) is provided through which a third medium can flow. A straight channel (4) through which the first medium can flow is formed centrally within the two spiral channels. All channels have walls of good conductivity and the spaces between these walls are filled with material (5) of good conductivity by said material flowing in until the spaces are full. The wall around the straight channel can be formed by the walls of the spiral channels and the filling material between them. Said channels may be of annealed red copper and the filling material may be tin. Method for the production of such a spiral heat exchanger wherein two annealed metal channels (1, 2) filled with sand are wound around a steel pin to form an assembly, which pin is then replaced by a straight metal channel having the same external diameter as the pin, and wherein the assembly is immersed in fluid filling material, cooling taking place after removal therefrom. The fluid filling material is subsequently melted again using a burner, after which cooling takes place. Matrix-type heat exchange unit constructed of modules, each of which is formed by a spiral heat exchanger as mentioned above. Such a matrix-type heat exchange unit consists of a homogeneous block of ceramic material in which, at the location of the modules, three channels pass through the ceramic material.

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