Title (en)

ENERGY EXCHANGE DEVICE BETWEEN MEDIA WITH IMPROVED STRUCTURE AND PERFORMANCES

Title (de)

ENERGIEAUSTASUCHAPPARAT ZWISCHEN MEDIEN MIT VERBESSERTER STRUKTUR UND LEISTUNG

Title (fr)

DISPOSITIF D'ECHANGE DE CHALEUR ENTRE FLUIDES AVEC STRUCTURE ET PERFORMANCE AMELIOREE

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2021144682A1] The present invention provides a design solution for a heat exchanger device that improves thermal performances, easily controls essential parameters of the working fluids, is easy to manufacture, use and maintain, suitable for application in a variety of commercial, residential premises, and various industries. The present invention is characterized by the structure of the counterflow and crossflow heat exchanger, made by winding helical coil tubes (201,202,203,204,205,206,207,208,289,290) successively through structural reinforcements (300,301,302,303,304, 305,306,307,308,389,390), that are an integral part of the heat exchanger core (200) and that enable a stepwise/zigzag arrangement of coils, and the arrangement of tubes of each coil exactly in the middle position and at the same distance (320) between the tubes of adjacent coils, and together they make the heat exchanger surface. Structural reinforcements (300,301,302,303,304,305,306,307,308,389,390) are made so that their inner (291) and outer edge (292) correspond to the required coil pitch (600), and that their inner edge (291) additionally follows the thread angle of the coil on which they are placed (292), and the outer edge follows the thread angle of the next coil.

IPC 8 full level

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