

Title (en)

Ventilating apparatus, heat exchange apparatus, heat exchange element, and rib therefor

Title (de)

Belüftungsvorrichtung, Wärmetauschkvorrichtung und Wärmetauschelement sowie Rippe dafür

Title (fr)

Appareil de ventilation, appareil d'échange thermique, élément d'échange thermique et nervure correspondante

Publication

EP 1939574 A1 20080702 (EN)

Application

EP 07116975 A 20070921

Priority

KR 20060135574 A 20061227

Abstract (en)

A ventilating apparatus (10), a heat exchange apparatus (20), a heat exchange element (21,22), and a rib (212,222) therefor are provided. The heat exchange element includes a plurality of heat exchange sheets (211,221) which are multi-stacked, and a plurality of ribs arranged between the heat exchange sheets to form ducts with the heat exchange sheets. Each of the plurality of ribs includes an irregular structural surface including an uneven portion (30). The uneven portion may include a recess portion (32), a protrusion portion (31), or a combination of a recess portion and a protrusion portion, which generates a turbulent flow in a heat exchange gas flowing through the duct. Such heat exchange element having such a rib may minimize duct resistance by suppressing a laminar flow and growth of a boundary layer in airflow of outdoor and indoor air passing through a heat exchanger, and may further increase heat exchange efficiency because the heat exchange gas may be introduced/exhausted smoothly at a low flow velocity.

IPC 8 full level

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CPC (source: EP KR US)

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Citation (search report)

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Designated contracting state (EPC)

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