

Title (en)

TUBE BUNDLE HEAT EXCHANGER WITH DEVICE FOR INFLUENCING THE FLOW IN THE AREA OF A PIPE MANIFOLD PLATE

Title (de)

ROHRBÜNDEL-WÄRMEAUSTAUSCHERS MIT EINER VORRICHTUNG ZUR EINFLUSSNAHME AUF DIE STRÖMUNG IM BEREICH EINER ROHRTRÄGERPLATTE

Title (fr)

ÉCHANGEUR DE CHALEUR À FAISCEAU TUBULAIRE AVEC UN DISPOSITIF PERMETTANT D'INFLUENCER L'ÉCOULEMENT DANS LA RÉGION D'UNE PLAQUE PORTE-TUBES

Publication

EP 2382435 B1 20150408 (DE)

Application

EP 09801407 A 20091217

Priority

- EP 2009009082 W 20091217
- DE 102009006246 A 20090127

Abstract (en)

[origin: WO2010086004A1] The invention relates to a device for influencing the flow in the area of a pipe manifold plate (700, 800) of a tube bundle heat exchanger (100), in particular for the food and beverage industry, according to the preamble of Claim 1. The object of the present invention is to further develop a device of the generic type, avoiding solutions problematic in the areas of hygiene, cleaning technology, and physical flow, such that even distribution of the flow, and thereby evenly distributed incident flow to the inner tubes distributed across the incident flow area of the pipe manifold plate, is ensured even for pipe manifold plates having 19 or more inner tubes. The object is achieved in that ° the inner contour is formed by the inner side of a rotationally symmetric, shell-shaped guide ring (11) in the form of an inner contour (Ki1), ° the guide ring (11) is directly or indirectly fixedly connected to the connecting bend (1000) or the connecting fitting (1100), ° the guide ring (11) is formed of at least one incident flow (11a) and one departing flow segment (11b), together forming a common, maximum exterior outer diameter (Dmax) at the connecting cross section thereof, ° the guide ring (11) divides the flow to the inner channel (300*) axially symmetrically, diverts the flow outward, and thereby accelerates the flow in an outer annular gap cross section (AS2) narrowing in a nozzle-like manner between the guide ring (11) and an external inner contour (Ki2) of the exchanger flange (500) or connecting fitting (800d), ° and the guide ring (11), viewed in the flow direction, subsequently forms an expanding outer annular gap cross section (ASE2) together with the external inner contour (Ki2).

IPC 8 full level

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CPC (source: EP US)

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DOCDB simple family (application)

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