

Title (en)
HEAT EXCHANGER

Title (de)
WÄRMETAUSCHER

Title (fr)
ÉCHANGEUR DE CHALEUR

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Abstract (en)
[origin: WO2015188812A1] The invention relates to a heat exchanger (1), comprising tubes (2) that are elliptical in cross-section, having outer ribs (3), and having the following characteristics: 1.1. the tubes (2) penetrate the ribs, and are connected to the ribs (3) by way of a collar (10) on the ribs (3); 1.2. a plurality of rows (R1, R2) of the tubes (2) are arranged one behind the other in the direction of flow (p); 1.3. the rows (R1, R2) extend transversely to the direction of flow (p); 1.4. the tubes (2) of successive rows (R1, R2) are arranged displaced parallel to the preceding row (R1, R2) by a transverse offset (VQ), wherein the transverse offset (VQ) is unequal to a transverse pitch distance (TQ) transversely to the direction of flow (p), or 1.5. adjacent tubes (2) within a row (R1, R2) are arranged offset to each other by a longitudinal offset (VL) extending in the direction of flow (p), wherein the longitudinal offset (VL) is smaller than a longitudinal pitch distance (TL) of the tubes (2) of successive rows (R1, R2); 1.6. the transverse pitch distance (TQ) of the tubes (2) of a row (R1, R2) is greater than the average width (B) of the ribs (3) measured transversely to the view plane (4) of the row (R1, R2) such that there is a gap (5) between the ribs (3) of adjacent tubes (2) of 0.1 to 0.5 times the average width (B); 1.7. the quadrangular ribs (3) have winglets (6a, 6b), wherein one winglet (6a, 6b) each is arranged in the corner region (E) of a rib (3) at a distance (A2) of longitudinal sides (7) and transverse sides (8) of the ribs (3).

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