Title (en)

A liquid-operated heat exchanger, particularly a heat recovery battery

Title (de)

Wärmetauscher für Flüssigkeiten, insbesondere Wärmerückgewinnungsblock

Title (fr)

Echangeur de chaleur pour liquides, en particulier batterie de récupération de chaleur

Publication

EP 1416242 A2 20040506 (EN)

Application

EP 03020737 A 20030912

Priority

SE 0203185 A 20021030

Abstract (en)

The fluid-coupled heat exchanger with venting and tapping-off devices involves a heat recovery battery with several superimposed circuits, through which heat-transmitting fluid circulates. The circuits comprise horizontal exchange tubes (12) provided with lamellas (15), which within a circuit in the form of a vertical row or several laterally located vertical rows are connected with each other via end-located row bends (13) to row circuits. The row circuits are in turn coupled together in a horizontal direction to a whole circuit via circuit bends (14) at the highest and lowest points of the row circuits. The inlet and outlet of the circuits are connected via connecting tubes (9,11) to collection tubes (3,5) on the inlet and outlet sides. The collection tubes are provided with tapping-off and venting devices.

The present invention relates to a heat recovery battery (1) with a plurality of circuits (10), placed above each other, through which a heat transferring liquid circulates. The circuits comprise horizontal exchanger tubes (12), provided with ribs (15), which exchanger tubes within a circuit in the form of a vertical row or several adjacent vertical rows are connected to each other via row bends (13), located at the ends of the circuits, to row circuits (12), which in their turn in a horizontal direction are connected to an entire circuit via circuits bends (14) at the highest and the lowest points of the row circuits, the inlets and the outlets of the circuits respectively through connecting tubes (9 and 11 respectively) being connected to collecting tubes (3 and 5 respectively) on the inlet and the outlet side respectively, which connecting tubes are provided with discharge and aeration means respectively (18 and 19). According to the invention each formation of said circuit bends (14) to row circuits (12), located vertically above each other and consequently also the last-mentioned row circuits per se being connected to each other via a through connecting tube (16) with aeration and discharge means respectively (17).

IPC 1-7

F28D 1/047; F28F 9/26

IPC 8 full level

F28D 1/047 (2006.01); **F28F 1/32** (2006.01); **F28F 9/26** (2006.01)

CPC (source: EP SE)

F24D 19/08 (2013.01 - SE); **F28D 1/0477** (2013.01 - EP); **F28D 9/00** (2013.01 - SE); **F28F 1/32** (2013.01 - EP); **F28F 9/26** (2013.01 - EP SE); F28F 2210/10 (2013.01 - EP); F28F 2265/06 (2013.01 - EP); F28F 2265/18 (2013.01 - EP)

Citation (applicant)

DE 19808753 C1 19990902 - HOWATHERM KLIMATECH GMBH [DE]

Cited by

DE102008049896A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

Designated extension state (EPC)

AL LT LV MK

DOCDB simple family (publication)

EP 1416242 A2 20040506; **EP 1416242 A3 20111214**; SE 0203185 D0 20021030; SE 0203185 L 20030909; SE 520895 C2 20030909

DOCDB simple family (application)

EP 03020737 A 20030912; SE 0203185 A 20021030