

Title (en)
Multitubular heat exchanger having an appropriate tube arrangement pattern

Title (de)
Multiröhren-Wärmetauscher mit besonderer Röhrenanordnung

Title (fr)
Echangeur de chaleur multitubulaire avec disposition particulière des tubes

Publication
EP 0802383 A2 19971022 (EN)

Application
EP 97302586 A 19970416

Priority
JP 9639496 A 19960418

Abstract (en)
A combination of tank members (2, 3) forms a fluid path for guiding a first heat exchange medium substantially in a first direction. A plurality of microtubes (1) each having an outer diameter D are interposed between the tank members (2, 3). A second heat exchange medium is guided by these microtubes (1) in a second direction intersecting the first direction for heat exchange with the first heat exchange medium. The microtubes (1) are staggered to have a pitch X in the first direction and are aligned to have a pitch Y in a third direction perpendicular to the first and the second directions. In particular, the pitch Y is selected within a range specified by $1.8 \leq Y/D \leq 2.4$. It is preferable that the pitch X is selected within a range specified by $1.12 \leq X/D \leq 1.8$. <IMAGE>

IPC 1-7
F28D 1/053; **F25B 39/02**

IPC 8 full level
F28D 1/053 (2006.01); **F28F 13/04** (2006.01); **F25B 39/02** (2006.01)

CPC (source: EP)
F28D 1/05341 (2013.01); **F28F 13/04** (2013.01); **F25B 39/02** (2013.01); **F28F 2260/02** (2013.01)

Cited by
CN104428611A; EP2447657A3; DE102015211606A1; ES2284375A1; EP1298401A3; EP2930455A1; EP1571534A3; CN103968681A; DE10158436A1; FR2920045A1; FR2855599A1; EP0947792A3; DE10257767A1; CN101975493A; US10330398B2; US8695689B2; US10670349B2; US10675949B2; WO2009022020A1; US9546824B2; US7448436B2; US6272881B1; WO2007093590A1

Designated contracting state (EPC)
DE FR GB IT SE

DOCDB simple family (publication)
EP 0802383 A2 19971022; **EP 0802383 A3 19981007**; JP H09280755 A 19971031

DOCDB simple family (application)
EP 97302586 A 19970416; JP 9639496 A 19960418