

Title (en)
DUPLEX HEAT EXCHANGER

Publication
EP 0414433 A3 19910508 (EN)

Application
EP 90308921 A 19900814

Priority
JP 21795989 A 19890823

Abstract (en)
[origin: EP0643278A2] An evaporator comprising a plurality of unit heat exchangers (A, B) each of which has a circuit formed therethrough for a heat exchanging medium and a connecting means (220, 230) for connecting the circuits in fluid communication with each other, each of the unit heat exchangers comprising a plurality of tubes (1) arranged in parallel with each other, a plurality of fins (2) each interposed between the two adjacent tubes (1) and a pair of hollow headers (3, 23 and 4, 24) to which both ends of each tube (1) are connected in fluid communication. The unit heat exchangers (A, B) are arranged fore and aft in a direction of air flow so that one of them faces windward, with the other lying leeward and unit air flow paths are defined between the adjacent tubes (1) and separated by the fins (2), such that a cross-sectional area of each unit air flow path in the leeward unit heat exchanger is larger than that in the windward one, whereby an amount of condensed water on the leeward unit heat exchanger is prevented from being scattered therefrom. <IMAGE>

IPC 1-7
F28D 1/04; **F28D 1/053**; **F28F 9/00**

IPC 8 full level
F25B 39/00 (2006.01); **F28D 1/04** (2006.01); **F28D 1/053** (2006.01); **F28F 9/02** (2006.01); **F28F 9/26** (2006.01)

CPC (source: EP)
F28D 1/0417 (2013.01); **F28D 1/05391** (2013.01); **F28F 9/0212** (2013.01); **F28F 9/262** (2013.01); **F28D 2021/0084** (2013.01); **F28D 2021/0085** (2013.01); **F28D 2021/0089** (2013.01); **F28F 2215/04** (2013.01); **F28F 2215/12** (2013.01)

Citation (search report)

- JP S6334466 A 19880215 - SHOWA ALUMINUM CORP
- US 4190105 A 19800226 - DANKOWSKI GERHARD [US]
- US 3229760 A 19660118 - ANDREW HURTER DONALD, et al
- DE 2423440 A1 19751120 - SUEDEDEUTSCHE KUEHLER BEHR
- US 4531574 A 19850730 - HOCH JOHN J [US]
- EP 0401752 A2 19901212 - THERMAL WAERME KAELTE KLIMA [DE]

Cited by
EP0563471A1; CN103471439A; EP1568960A3; DE10241635A1; DE9400687U1; CN107036465A; DE19719252A1; DE19719252C2; FR2681419A1; EP1331463A3; EP1881288A1; FR2682160A1; EP0702200A3; US5622219A; US5685366A; US5901782A; CN112664323A; EP0754579A3; EP0769665A3; US2017347526A1; US10477771B2; EP4092369A1; EP3141859A1; EP3572743A4; DE102005040607A1; EP0657315A1; EP0516413A1; US5379834A; DE19758886B4; US7392837B2; US7650934B2; WO9850745A1; US11274838B2; WO2012041441A2; WO2004053411A1; WO03040640A1; WO2005050115A1; WO0161263A1; WO2005066565A1; WO2005075913A1; EP1070929A2; DE202010000951U1; US11280551B2; US11624564B2; US8091617B2; EP2430385B1; EP0677716B1

Designated contracting state (EPC)
AT DE FR GB IT SE

DOCDB simple family (publication)
EP 0414433 A2 19910227; **EP 0414433 A3 19910508**; **EP 0414433 B1 19950524**; AT E123138 T1 19950615; AT E155233 T1 19970715; AU 6122990 A 19910228; AU 637807 B2 19930610; CA 2023499 A1 19910224; CA 2023499 C 20021029; DE 69019633 D1 19950629; DE 69019633 T2 19951130; DE 69031047 D1 19970814; DE 69031047 T2 19980205; EP 0643278 A2 19950315; EP 0643278 A3 19950524; EP 0643278 B1 19970709; JP 3030036 B2 20000410; JP H0384395 A 19910409

DOCDB simple family (application)
EP 90308921 A 19900814; AT 90308921 T 19900814; AT 94117701 T 19900814; AU 6122990 A 19900822; CA 2023499 A 19900817; DE 69019633 T 19900814; DE 69031047 T 19900814; EP 94117701 A 19900814; JP 21795989 A 19890823