

Title (en)
HEAT EXCHANGER FOR PROVIDING SUPERCRITICAL COOLING OF A WORKING FLUID IN A TRANSCRITICAL COOLING CYCLE

Title (de)
WÄRMETAUSCHER ZUR BEREITSTELLUNG VON ÜBERKRITISCHEM KÜHLEN EINES ARBEITSMEDIUMS IN EINEM TRANSKRITISCHEN KÜHLKREISLAUF

Title (fr)
ECHANGEUR DE CHALEUR PRODUISANT UN REFROIDISSEMENT SURCRITIQUE D'UN FLUIDE DE TRAVAIL DANS UN CYCLE DE REFROIDISSEMENT TRANSCRITIQUE

Publication
EP 1448945 A1 20040825 (EN)

Application
EP 02804409 A 20021030

Priority
• US 0234606 W 20021030
• US 1301801 A 20011130

Abstract (en)
[origin: WO03048670A1] Heat exchanger 10 for providing supercritical cooling to the refrigerant of a transcritical cooling system 12 including a pair of elongated headers 20, 22 plurality of elongated tubes 28 spaced in side-by-side relation along the longitudinal axes 24, 26 of the headers 20, 22, and serpentine fins 30 extending between adjacent pairs of the tubes. Each of the tubes 28 is folded upon itself to define at least two parallel legs 36 of the tubes 28 and has a flattened cross-section. The parallel legs 36 of the tubes 28 are preferably spaced from each other, with the major dimension D of each of the parallel legs lying in a common plane. Each of the fins 30 includes alternating tabs 40 and elongated separations 42 extending parallel to the parallel legs 36 and located between the parallel legs 36 of the adjacent tubes 28 to divide the width W of each fin 30 into discrete fin elements 44 that are connected to each other by the tabs 40. Each of the fin elements 44 extends along one of the parallel legs 36 of the adjacent tubes 28.

IPC 1-7
F28D 1/047; **F28F 1/12**; **F28F 1/02**

IPC 8 full level
F28D 1/00 (2006.01); **F28D 1/047** (2006.01); **F28D 1/053** (2006.01); **F28F 1/02** (2006.01); **F28F 1/12** (2006.01); **F25B 9/00** (2006.01)

CPC (source: EP KR US)
F28D 1/047 (2013.01 - KR); **F28D 1/0478** (2013.01 - EP US); **F28F 1/02** (2013.01 - KR); **F28F 1/022** (2013.01 - EP US); **F28F 1/12** (2013.01 - KR); **F28F 1/128** (2013.01 - EP US); **F25B 9/008** (2013.01 - EP US); **F25B 2309/061** (2013.01 - EP US); **F28D 2021/0073** (2013.01 - EP US)

Citation (search report)
See references of WO 03048670A1

Cited by
EP1460364A3

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)
WO 03048670 A1 20030612; AR 037428 A1 20041110; AU 2002365762 A1 20030617; AU 2002365762 B2 20080221; BR 0214479 A 20040914; CA 2467137 A1 20030612; CN 100380081 C 20080409; CN 101089533 A 20071219; CN 1596360 A 20050316; EP 1448945 A1 20040825; JP 2005512009 A 20050428; KR 20050058253 A 20050616; MX PA04004660 A 20040813; RU 2004117856 A 20050427; RU 2319094 C2 20080310; TW 200301815 A 20030716; US 2003102113 A1 20030605

DOCDB simple family (application)
US 0234606 W 20021030; AR P020104527 A 20021125; AU 2002365762 A 20021030; BR 0214479 A 20021030; CA 2467137 A 20021030; CN 02823655 A 20021030; CN 200710104945 A 20021030; EP 02804409 A 20021030; JP 2003549821 A 20021030; KR 20047008270 A 20040528; MX PA04004660 A 20021030; RU 2004117856 A 20021030; TW 91133260 A 20021113; US 1301801 A 20011130