

Title (en)
HEAT TRANSFER TUBE WITH INTERNAL GROOVES AND METHOD AND DEVICE FOR MANUFACTURING THE TUBE

Title (de)
WÄRMEAUSTAUSCHSROHR MIT INNEREN NUTEN UND VERFAHREN ZU DEREN HERSTELLUNG

Title (fr)
TUBE DE TRANSFERT THERMIQUE AVEC RAINURES INTERNES ET SON PROCEDE DE FABRICATION

Publication
EP 1087198 A1 20010328 (EN)

Application
EP 00915441 A 20000410

Priority
• JP 0002300 W 20000410
• JP 10076799 A 19990408

Abstract (en)
A pressure loss is reduced by providing a plurality of rows of grooves (3) arranged in V-shaped patterns on an inner surface of a pipe body (1a) so as for the rows of grooves to be symmetric with respect to the pipe axis direction and by forming secondary grooves (6), (7) in a prescribed depth in part of projected portions (5) formed therebetween. Also, even when a refrigerant flow rate is low, the refrigerant flow in the pipe can be appropriately controlled by making widths of the plurality of rows of the grooves (3) arranged in the V-shaped patterns unequal in the circumferential direction to generate swirl in the spiral direction and thereby a heat transfer performance is improved as much as possible. <IMAGE>

IPC 1-7
F28F 1/40; **B21D 5/12**

IPC 8 full level
B21C 37/08 (2006.01); **B21C 37/20** (2006.01); **F28F 1/40** (2006.01)

CPC (source: EP)
B21C 37/08 (2013.01); **B21C 37/20** (2013.01); **F28F 1/40** (2013.01)

Cited by
EP1852669A1; DE10210016A1; DE10210016B4; DE10210016B9; EP1342971A3

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

DOCDB simple family (publication)
EP 1087198 A1 20010328; **EP 1087198 A4 20050427**; AU 3674800 A 20001114; AU 746338 B2 20020418; CN 1313947 A 20010919; JP 2000292088 A 20001020; JP 3296325 B2 20020624; WO 0062001 A1 20001019

DOCDB simple family (application)
EP 00915441 A 20000410; AU 3674800 A 20000410; CN 00801029 A 20000410; JP 0002300 W 20000410; JP 10076799 A 19990408