

Title (en)

MINIATURE JOULE-THOMSON EXPANSION REFRIGERATOR, AND METHOD OF MANUFACTURING IT

Publication

**EP 0286462 B1 19910918 (FR)**

Application

**EP 88400485 A 19880302**

Priority

FR 8703027 A 19870306

Abstract (en)

[origin: EP0286462A1] This refrigerator (2) comprises an internal helical tube (11) soldered to a mandrel (8) and an external helical tube (12) soldered in a cylindrical envelope (9) which surrounds the mandrel, the turns of the two tubes penetrating each other. Application in cooling of infra-red detectors. <IMAGE>

IPC 1-7

**B21D 53/06**; **F25B 9/02**; **F28D 7/02**; **F28D 7/04**

IPC 8 full level

**B21D 53/06** (2006.01); **F25B 9/02** (2006.01); **F28D 7/02** (2006.01); **F28D 7/04** (2006.01)

CPC (source: EP)

**B21D 53/06** (2013.01); **F25B 9/02** (2013.01); **F28D 7/024** (2013.01); **F28D 7/04** (2013.01)

Cited by

FR2749651A1; EP0494299B1

Designated contracting state (EPC)

BE CH DE ES FR GB IT LI

DOCDB simple family (publication)

**FR 2611870 A1 19880909**; **FR 2611870 B1 19890609**; DE 3864878 D1 19911024; EP 0286462 A1 19881012; EP 0286462 B1 19910918

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