

Title (en)  
Cooling apparatus

Title (de)  
Kühlvorrichtung

Title (fr)  
Dispositif de refroidissement

Publication  
**EP 1586833 A2 20051019 (EN)**

Application  
**EP 05251855 A 20050324**

Priority  
GB 0408312 A 20040414

Abstract (en)  
Cooling apparatus comprises a cooling system defining a closed path around which a coolant flows. The system includes a pump (13) for causing coolant flow, a supply line (26) extending from the pump to a cold location, positioned in a cryostat, in order to cool that location, and a return line extending (28) from the cold location to the pump. The pump is located externally of the cryostat. A first heat exchanger (17) is positioned within the cryostat and links the supply and return lines to allow heat exchange therebetween such that coolant flowing in the supply line is cooled by coolant flowing in the return line. A refrigerator is provided having a cooling stage within the cryostat and coupled to the supply line downstream of the first heat exchanger such that coolant reaching the first cooling stage has been precooled by the first heat exchanger.

IPC 1-7  
**F25B 25/00**; H01F 6/04; G01R 33/3815

IPC 8 full level  
**F25B 9/14** (2006.01); **F25B 25/00** (2006.01); **G01R 33/3815** (2006.01); **H01F 6/04** (2006.01)

CPC (source: EP US)  
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**F25D 19/006** (2013.01 - EP US)

Cited by  
JP2007205709A; EP4033176A4; GB2490836A; CN102971594A; GB2502628A; US2013160975A1; US9958519B2; GB2433581A; GB2433581B; CN102290187A; US11828513B2; WO2011112987A3

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