

Title (en)  
COOLING APPARATUS

Title (de)  
KÜHLVORRICHTUNG

Title (fr)  
DISPOSITIF DE REFROIDISSEMENT

Publication  
**EP 2593735 A2 20130522 (DE)**

Application  
**EP 11738939 A 20110712**

Priority  
• AT 11772010 A 20100712  
• AT 2011000298 W 20110712

Abstract (en)  
[origin: US2013205826A1] A cooling apparatus having a closed cooling circuit for cooling objects to semi-cryogenic or cryogenic temperatures includes a compressor to compress a gaseous coolant, and from which the coolant exits in a compressed gaseous state, an after-cooler connected downstream from the compressor, whereby the coolant exits largely in gaseous form, a counterflow heat exchanger having a feed line and return line arranged in such a way that the compressed coolant is liquefied in the feed line as the relieved coolant flowing through the return line is being heated. A cooling head that is connected with the feed line and return line. A coolant can flow through the cooling head whereby the coolant evaporates. The cooling head is arranged in a vacuum chamber, which can be joined with a low-pressure source, and is joined by flexible connecting lines with the feed line and return line of the counterflow heat exchanger.

IPC 8 full level  
**F25D 19/00** (2006.01)

CPC (source: EP US)  
**F25B 1/00** (2013.01 - US); **F25D 19/00** (2013.01 - EP US)

Citation (search report)  
See references of WO 2012006645A2

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DOCDB simple family (publication)  
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