

Title (en)
Refrigerating machine optimized for carrying out cascade refrigerating cycles

Title (de)
Zum Durchführen von Kaskadenkühlkreisläufen optimierte Kühlmaschine

Title (fr)
Machine de réfrigération optimisée pour réaliser des cycles de réfrigération en cascade

Publication
EP 2492615 A1 20120829 (EN)

Application
EP 11425041 A 20110222

Priority
EP 11425041 A 20110222

Abstract (en)
Totally recuperative conditioning system operating two cascade refrigerating cycles with optimized circuit comprising at least an inner unit and an outer unit. The inner unit comprises at least a compressor, three heat exchangers, a throttling valve and a cycle inverting valve and the outer unit comprises at least a compressor, a heat exchanger, a throttling valve, a cycle inverting valve and the heat exchanger shared with said inner unit. The system is able to serve a plurality of users distributing, depending on the requirements, heat or cold for conditioning ambients and hot water for sanitary use, and it is characterized in that it is provided with a simplified water circuit comprising a number of valves not higher than five for the inner unit and five for the outer unit, of which at least an inverting valve for each said unit and in that said heat exchanger functions as evaporator or as condenser for cycles operating in said units depending on the opening state of said valves.

IPC 8 full level
F25B 7/00 (2006.01); **F25B 13/00** (2006.01); **F25B 29/00** (2006.01); **F25B 49/02** (2006.01); **F25B 41/04** (2006.01)

CPC (source: EP US)
F25B 7/00 (2013.01 - EP); **F25B 13/00** (2013.01 - EP US); **F25B 29/003** (2013.01 - EP); **F25B 49/02** (2013.01 - EP);
F25B 41/20 (2021.01 - EP US); **F25B 2339/047** (2013.01 - EP); **F25B 2600/025** (2013.01 - EP); **F25B 2700/21161** (2013.01 - EP);
F25B 2700/21173 (2013.01 - EP)

Citation (search report)
• [I] CN 1436980 A 20030820 - UNIV ZHEJIANG [CN]
• [I] JP S59134469 A 19840802 - MATSUSHITA ELECTRIC IND CO LTD
• [X] WO 2010098607 A2 20100902 - KIM SANG-WON [KR], et al

Cited by
EP2581691A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

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