

Title (en)  
LOW GWP CASCADE REFRIGERATION SYSTEM

Title (de)  
KASKADENKÄLTEANLAGE MIT GERINGEM ERDERWÄRMUNGSPOTENZIAL

Title (fr)  
SYSTÈME FRIGORIFIQUE EN CASCADE À FAIBLE PRG

Publication  
**EP 3433547 A4 20191002 (EN)**

Application  
**EP 17771233 A 20170324**

Priority  
• US 201662313177 P 20160325  
• US 2017024010 W 20170324

Abstract (en)  
[origin: CN108779940A] Disclosed are cascade refrigerant systems for providing cooling of air located in an enclosure that is occupied by or which will be exposed to humans or other animals during normal use, wherein systems includes; (1) a first, relatively low temperature heat transfer circuit having a first evaporator located within the enclosure and a first heat transfer fluid in the low temperature heat transfer circuit; (2) a second heat transfer circuit located substantially outside the enclosure comprising a second heat transfer fluid; (3) a heat exchanger which serves as the condenser in the low temperature circuit thermally coupled with the high temperature circuit by virtue of rejecting heat into the second heat transfer fluid; and (4) in the high temperature loop of a heat exchanger which transfers heat from the second heat transfer fluid exiting from a high temperature condenser to the portion of the second heat transfer fluid which is traveling to the suction side of the compressor.

IPC 8 full level  
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**C09K 5/045** (2013.01 - CN); **F25B 7/00** (2013.01 - CN EP); **F25B 9/006** (2013.01 - CN); **F25B 9/008** (2013.01 - CN EP US); **F25B 9/10** (2013.01 - US); **F25B 40/00** (2013.01 - EP); **F25B 2400/121** (2013.01 - EP US)

Citation (search report)  
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• [Y] US 2014083124 A1 20140327 - SUGIMOTO TAKESHI [JP], et al  
• [Y] JP 5717584 B2 20150513  
• [Y] EP 2942381 A1 20151111 - HONEYWELL INT INC [US]  
• [XI] US 2005253107 A1 20051117 - FLYNN KEVIN P [US], et al  
• See references of WO 2017165764A1

Designated contracting state (EPC)  
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CN 201780019272 A 20170324; CN 202111609565 A 20170324; EP 17771233 A 20170324