

Title (en)  
TRANSCRITICAL REFRIGERANT VAPOR COMPRESSION SYSTEM WITH CHARGE MANAGEMENT

Title (de)  
TRANSKRITISCHES KÄLTEMITTELDAMPFKOMPRESSIONSSYSTEM MIT LADUNGSVERWALTUNG

Title (fr)  
SYSTÈME DE COMPRESSION DE VAPEUR DE RÉFRIGÉRANT TRANSCRITIQUE À GESTION DE CHARGE

Publication  
**EP 2147269 A4 20140528 (EN)**

Application  
**EP 07756034 A 20070424**

Priority  
US 2007010066 W 20070424

Abstract (en)  
[origin: WO2008130358A1] A refrigerant vapor compression system includes a refrigerant-to-refrigerant heat exchanger economizer and a flash tank disposed in series refrigerant flow relationship in the refrigerant circuit intermediate a refrigerant heat rejection heat exchanger and a refrigerant heat absorption heat exchanger. A primary expansion valve is interdisposed in the refrigerant circuit upstream of the refrigerant heat absorption heat exchanger and a secondary expansion valve is interdisposed in the refrigerant circuit upstream of the flash tank. The flash tank functions as a refrigerant charge storage reservoir wherein refrigerant expanded from a supercritical pressure to subcritical pressure separates into liquid and vapor phases. A refrigerant vapor bypass line is provided to return refrigerant vapor from the flash tank to the refrigerant circuit downstream of the refrigerant heat absorption heat exchanger. The primary expansion valve and a flow control valve interdisposed in the refrigerant vapor bypass provide refrigerant charge management.

IPC 8 full level  
**F25D 17/06** (2006.01); **F25B 1/10** (2006.01); **F25B 9/00** (2006.01)

CPC (source: EP US)  
**B60H 1/3228** (2019.04 - EP); **F25B 9/008** (2013.01 - EP US); **F25B 1/10** (2013.01 - EP US); **F25B 2309/061** (2013.01 - EP US); **F25B 2400/13** (2013.01 - EP US); **F25B 2400/23** (2013.01 - EP US); **F25B 2600/2509** (2013.01 - EP US); **F25B 2700/19** (2013.01 - EP US); **F25B 2700/1931** (2013.01 - EP US); **F25B 2700/1933** (2013.01 - EP US); **F25B 2700/21151** (2013.01 - EP US); **F25B 2700/21152** (2013.01 - EP US)

Citation (search report)

- [XYI] WO 2006091190 A1 20060831 - CARRIER CORP [US], et al
- [Y] EP 1253323 A2 20021030 - COPELAND CORP [US]
- [A] JP H10318614 A 19981204 - MATSUSHITA ELECTRIC IND CO LTD
- [A] US 2005247071 A1 20051110 - NEMIT PAUL JR [US]
- See references of WO 2008130358A1

Cited by  
CN106574812A

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**WO 2008130358 A1 20081030**; CN 101688725 A 20100331; CN 101688725 B 20130327; EP 2147269 A1 20100127; EP 2147269 A4 20140528; JP 2010525293 A 20100722; JP 5196452 B2 20130515; US 2010132399 A1 20100603

DOCDB simple family (application)  
**US 2007010066 W 20070424**; CN 200780053477 A 20070424; EP 07756034 A 20070424; JP 2010506153 A 20070424; US 59688507 A 20070424