

Title (en)  
EVAPORATOR LIQUID PREHEATER FOR REDUCING REFRIGERANT CHARGE

Title (de)  
VERDAMPFERFLÜSSIGKEITSVORWÄRMER ZUR REDUZIERUNG DER KÄLTEMITTELLADUNG

Title (fr)  
PRÉCHAUFFEUR DE LIQUIDE D'ÉVAPORATEUR POUR RÉDUIRE LA CHARGE DE FLUIDE FRIGORIGÈNE

Publication  
**EP 3164649 A4 20180314 (EN)**

Application  
**EP 15815973 A 20150701**

Priority  
• US 201462019877 P 20140701  
• US 2015038911 W 20150701

Abstract (en)  
[origin: CN107076484A] A system and method for reducing the refrigerant charge in a refrigeration system by preheating the liquid refrigerant before it is introduced to the evaporator inlet. When refrigerant liquid is introduced to the evaporator inlet, a portion of the refrigerant liquid vaporizes. The refrigerant vapor displaces refrigerant liquid at the inlet of the evaporator. As more refrigerant vapor is introduced, the amount of liquid inside the evaporator is reduced. A heat exchanger is placed before the liquid refrigerant inlet of the evaporator to generate more vapor when the refrigerant enters the evaporator.

IPC 8 full level  
**F25B 41/00** (2006.01)

CPC (source: EP US)  
**F25B 5/04** (2013.01 - US); **F25B 6/04** (2013.01 - EP); **F25B 39/02** (2013.01 - US); **F25B 40/00** (2013.01 - EP); **F25B 41/00** (2013.01 - US); **F25B 49/02** (2013.01 - EP); **F25B 5/02** (2013.01 - EP); **F25B 2339/047** (2013.01 - EP); **F25B 2400/05** (2013.01 - EP); **F25B 2400/23** (2013.01 - EP); **F25B 2500/19** (2013.01 - EP); **F25B 2700/1933** (2013.01 - EP); **F25B 2700/197** (2013.01 - EP); **F25B 2700/21151** (2013.01 - EP); **F25B 2700/21175** (2013.01 - EP)

Citation (search report)  
• [XYI] US 3164973 A 19650112 - WATKINS JOHN E  
• [Y] US 5544496 A 19960813 - STOLL THOMAS D [US], et al  
• See references of WO 2016004257A1

Designated contracting state (EPC)  
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CN 107076484 A 20170818; CN 116518592 A 20230801; EP 3164649 A1 20170510; EP 3164649 A4 20180314

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CN 201580035805 A 20150701; CN 202310384310 A 20150701; EP 15815973 A 20150701