

Title (en)

Refrigeration system with integrated oil cooling heat exchanger

Title (de)

Kälteanlage mit eingegliedertem Wärmetauscher zur Ölkühlung

Title (fr)

Système frigorifique avec échangeur de chaleur intégré pour le refroidissement d'huile

Publication

EP 0924478 A3 20000322 (EN)

Application

EP 98630074 A 19981211

Priority

- US 99158897 A 19971215
- US 99422497 A 19971219

Abstract (en)

[origin: EP0924478A2] The refrigeration system includes a substantially liquid refrigerant and an evaporator (22) for transferring heat from the air to the substantially liquid refrigerant. The substantially liquid refrigerant becomes a low temperature, low pressure first substantially gaseous refrigerant. A compressor (12) compresses the first substantially gaseous refrigerant into a high pressure, high temperature superheated second gaseous refrigerant. A lubricant circuit supplies lubricant to the compressor (12). A condenser (16) rejects heat from the second gaseous refrigerant and forms a high pressure, lower temperature sub-cooled liquid refrigerant. The condenser (16) has an output stream. A metering device (20) transforms the sub-cooled liquid refrigerant into the substantially liquid refrigerant for the evaporator (22). A heat exchanger (18) includes a coolant circuit for circulating coolant in a first coolant path on route to the compressor (12); a lubricant circuit (51) for circulating lubricant in a second lubricant path on route to said compressor (12) for cooling via heat exchange with said coolant, and a refrigerant circuit (49) for circulating said sub-cooled liquid refrigerant in a third refrigerant path on route to the metering device (20) for cooling via heat exchange with said coolant. <IMAGE>

IPC 1-7

F25B 1/00; **F25B 5/02**; **F25B 31/00**; **F25B 40/00**

IPC 8 full level

F25B 31/00 (2006.01); **F25B 40/00** (2006.01); **F25B 43/00** (2006.01)

CPC (source: EP)

F25B 31/002 (2013.01); **F25B 40/00** (2013.01); **F25B 43/006** (2013.01); **F25B 2400/051** (2013.01); **F25B 2400/13** (2013.01)

Citation (search report)

- [Y] EP 0365351 A2 19900425 - THERMO KING CORP [US]
- [Y] US 5419155 A 19950530 - BOEHDE MICHAEL C [US], et al
- [A] US 5245833 A 19930921 - MEI VIUNG C [US], et al
- [A] US 4208887 A 19800624 - HUDSON SHARON J JR [US], et al
- [A] WO 8900664 A1 19890126 - HULTGREN SIGURD [SE]
- [A] US 2385667 A 19450925 - WEBBER ROBERT C
- [A] US 3830077 A 19740820 - WILLEN H, et al
- [A] US 5408836 A 19950425 - SJOHOLM LARS I [US], et al
- [A] WO 9708506 A1 19970306 - SWEP INTERNATIONAL AB [SE], et al
- [A] US 4217765 A 19800819 - ECKER AMIR L [US]

Cited by

US2016153688A1; CN102914102A; EP1696188A3; CN108800685A; EP1202003A3; CN101900113A; CN105823256A; CN115164411A; EP1862749A3; EP2383529A4; CN105324616A; US10408508B2; CN118009592A; US9115917B2; US11662125B2; WO2013063668A1; WO2020227374A3; US8590324B2; US9316227B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

EP 0924478 A2 19990623; **EP 0924478 A3 20000322**

DOCDB simple family (application)

EP 98630074 A 19981211