

Title (en)

Heat pump system, method for adjusting temperature of lubricating water in heat pump system, and method for operating heat pump system

Title (de)

Wärmepumpensystem, Verfahren zur Einstellung der Temperatur von Schmierwasser in einem Wärmepumpensystem und Verfahren für den Betrieb eines Wärmepumpensystems

Title (fr)

Système de pompe à chaleur, procédé de réglage de la température de l'eau de lubrification dans un système de pompe à chaleur, et procédé de fonctionnement d'un système de pompe à chaleur

Publication

EP 1985946 A3 20090617 (EN)

Application

EP 07001035 A 20070118

Priority

JP 2006049474 A 20060227

Abstract (en)

[origin: US2007201999A1] A heat pump system, a method for adjusting a temperature of lubricating water in a heat pump system, and a method for operating a heat pump system, which suppress boiling of lubricating water for bearings and thereby minimize the deterioration in reliability of the bearings. A heat pump system comprising an evaporator 43 for generating steam, and a compressor 34 including a first stage 33 and second stage 32 as a plurality of compression mean for compressing the steam, wherein bearings 51 for supporting the compressor 34 are water bearings, and lubricating water in each of the water bearings 51 is controlled to a temperature less than a saturation temperature associated with an internal pressure of each water bearing 51.

IPC 8 full level

F25B 30/02 (2006.01); **F01D 25/22** (2006.01); **F22B 3/04** (2006.01)

CPC (source: EP US)

F04B 53/18 (2013.01 - EP US); **F22B 3/04** (2013.01 - EP US)

Citation (search report)

- [XY] US 3728857 A 19730424 - NICHOLS K
- [XY] US 5050389 A 19910924 - WIGMORE DAVID B [US], et al
- [Y] JP H111159528 A 19990615 - KUBOTA KK
- [Y] JP S5830522 A 19830223 - HITACHI LTD, et al
- [Y] US 4211092 A 19800708 - LAING KARSTEN [DE], et al
- [YD] EP 1096209 A1 20010502 - ELECTRICITE DE FRANCE [FR]

Cited by

US9297277B2

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 NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

US 2007201999 A1 20070830; EP 1985946 A2 20081029; EP 1985946 A3 20090617; EP 1985946 B1 20130710; JP 2007224868 A 20070906; JP 4923618 B2 20120425; US 2010089077 A1 20100415

DOCDB simple family (application)

US 62442307 A 20070118; EP 07001035 A 20070118; JP 2006049474 A 20060227; US 63860809 A 20091215