

Title (en)  
HOT WATER SYSTEM

Title (de)  
HEISSWASSERSYSTEM

Title (fr)  
SYSTÈME D'EAU CHAUDE

Publication  
**EP 2306111 A1 20110406 (EN)**

Application  
**EP 09758278 A 20090601**

Priority  
• JP 2009059960 W 20090601  
• JP 2008149139 A 20080606  
• JP 2008181385 A 20080711

Abstract (en)  
A heat pump unit 1 has a refrigerant circuit 16, and an evaporator 11, a compressor 12, a condenser 13, an expansion mechanism 15 and a defrosting heat exchanger 19 provided in the refrigerant circuit 16. The defrosting heat exchanger 19 is provided downstream of the evaporator 11 and upstream of the compressor 12. During defrosting operation, hot water within the hot-water storage tank 2 flows through a defrosting circulation circuit 50 to enter into the defrosting heat exchanger 19. A branch valve 55 for controlling flow of hot water flow through the defrosting circulation circuit 50 is provided in the defrosting circulation circuit 50.

IPC 8 full level  
**F24H 1/00** (2006.01); **F24D 3/08** (2006.01); **F24D 3/18** (2006.01); **F25B 39/00** (2006.01); **F25B 40/00** (2006.01); **F25B 47/02** (2006.01)

CPC (source: EP US)  
**F24D 11/0214** (2013.01 - EP); **F24D 17/02** (2013.01 - EP); **F24H 15/136** (2022.01 - EP US); **F24H 15/212** (2022.01 - EP US); **F24H 15/32** (2022.01 - EP US); **F25B 30/02** (2013.01 - EP); **F25B 40/00** (2013.01 - EP); **F25D 21/12** (2013.01 - EP); **F24D 2200/12** (2013.01 - EP); **F24D 2220/042** (2013.01 - EP); **F24D 2220/06** (2013.01 - EP); **F24D 2220/08** (2013.01 - EP); **F24D 2220/2009** (2013.01 - EP); **F24D 2220/209** (2013.01 - EP); **F24D 2240/10** (2013.01 - EP); **F24D 2240/12** (2013.01 - EP); **F24D 2240/26** (2013.01 - EP); **F24H 15/215** (2022.01 - EP US); **F24H 15/219** (2022.01 - EP US); **F24H 15/225** (2022.01 - EP US); **F24H 15/254** (2022.01 - EP US); **F24H 15/258** (2022.01 - EP US); **F24H 15/315** (2022.01 - EP US); **F24H 15/335** (2022.01 - EP US); **F24H 15/37** (2022.01 - EP US); **F24H 15/38** (2022.01 - EP US); **F24H 15/385** (2022.01 - EP US); **F25B 2309/06** (2013.01 - EP); **F25B 2339/047** (2013.01 - EP)

Citation (search report)  
See references of WO 2009148011A1

Cited by  
US10663212B2; GB2621209A; US2024044522A1; GB2532439A; CN111365895A; EP3290827A1; CN107796141A; US11149985B2; WO2022168046A1; WO2014072743A1; WO2018137789A1; WO2023105210A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**EP 2306111 A1 20110406**; WO 2009148011 A1 20091210

DOCDB simple family (application)  
**EP 09758278 A 20090601**; JP 2009059960 W 20090601