

Title (en)
Heat pump hot water supply apparatus

Title (de)
Wärmepumpenwarmwasserversorgungsvorrichtung

Title (fr)
Appareil d'alimentation en eau chaude de type pompe à chaleur

Publication
EP 2336669 A3 20140730 (EN)

Application
EP 10192556 A 20101125

Priority
JP 2009279169 A 20091209

Abstract (en)
[origin: EP2336669A2] A heat pump hot water supply apparatus comprising a heat pump unit 1 having a water refrigerant heat exchanger 3 which heats low temperature water, a hot water reservoir tank unit 10 having a hot water reservoir tank in which high temperature water heated by the water refrigerant heat exchanger 3 is stored, a water pipe 13 which sends low temperature water in a lower portion of the hot water reservoir tank to the water refrigerant heat exchanger 3, and a boiling pipe 12 which sends high temperature water heated by the water refrigerant heat exchanger 3 to an upper portion of the hot water reservoir tank, wherein the heat pump unit 1 is placed on a ceiling surface of the hot water reservoir tank unit 10, and the boiling pipe 12 is shorter than the water pipe 13. The heat pump hot water supply apparatus can be installed in an environment having a small installation space such as a detached house or an apartment in an urban area. A radiation loss from a connecting pipe can be reduced, material cost of the connecting pipe can be reduced, and the number of man-hours of a piping operation at the site of installation can be reduced.

IPC 8 full level
F24H 4/04 (2006.01)

CPC (source: EP)
F24H 4/04 (2013.01)

Citation (search report)
• [X1] JP 2004132670 A 20040430 - MATSUSHITA ELECTRIC IND CO LTD
• [X1] US 4363221 A 19821214 - SINGH KANWAL N
• [I] JP 2009204253 A 20090910 - MITSUBISHI ELECTRIC CORP
• [I] JP 2005337695 A 20051208 - CHUGOKU ELECTRIC POWER

Designated contracting state (EPC)
AL 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 RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2336669 A2 20110622; EP 2336669 A3 20140730; EP 2336669 B1 20170802; CN 102095252 A 20110615; CN 102095252 B 20141112; JP 2011122752 A 20110623; JP 5428817 B2 20140226

DOCDB simple family (application)
EP 10192556 A 20101125; CN 201010589831 A 20101209; JP 2009279169 A 20091209