

Title (en)  
PUMP DEVICE

Title (de)  
PUMPVORRICHTUNG

Title (fr)  
DISPOSITIF DE POMPE

Publication  
**EP 2990652 A4 20161228 (EN)**

Application  
**EP 14788422 A 20140422**

Priority  
• JP 2013094552 A 20130426  
• JP 2013095808 A 20130430  
• JP 2014061247 W 20140422

Abstract (en)  
[origin: EP2990652A1] The present invention relates to a pump apparatus which can be suitably used as a water supply apparatus for supplying water to a building. The pump apparatus includes: a pump (2); a motor (3) configured to drive the pump (2); a driver (20) for driving of the motor (3) at variable speed; and a controller (40) configured to control the driver (20) so as to start the pump when the discharge-side pressure of the pump (2) decreases to a predetermined starting pressure and to keep the discharge-side pressure equal to a target pressure on a target pressure control curve. The controller (40) determines a lowest value PL of the discharge-side pressure after the pump (2) is started, calculates a difference #P1 between the lowest value PL and a predetermined lower limit Pz of the discharge-side pressure, and corrects the target pressure control curve R based on the difference #P1.

IPC 8 full level  
**F04D 15/00** (2006.01); **F04D 15/02** (2006.01)

CPC (source: EP)  
**F04D 15/0066** (2013.01); **F04D 15/029** (2013.01)

Citation (search report)  
• [A] JP H09119377 A 19970506 - HITACHI LTD  
• [A] JP H10318181 A 19981202 - HITACHI LTD  
• [A] JP 2011027118 A 20110210 - EBARA CORP, et al  
• [A] US 2010076658 A1 20100325 - LIAO SHIH-CHIEH [TW], et al  
• [A] JP 2012101136 A 20120531 - EBARA CORP  
• See references of WO 2014175248A1

Cited by  
US11243512B2; EP3422122A1; US2019004499A1; CN109214036A; RU2692548C1

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

DOCDB simple family (publication)  
**EP 2990652 A1 20160302; EP 2990652 A4 20161228**; CN 105121858 A 20151202; CN 105121858 B 20170308; KR 20160002957 A 20160108; WO 2014175248 A1 20141030

DOCDB simple family (application)  
**EP 14788422 A 20140422**; CN 201480022655 A 20140422; JP 2014061247 W 20140422; KR 20157032925 A 20140422