Title (en)

Drum type washing machine

Title (de)

Trommelwaschmaschine

Title (fr)

Machine à laver à tambour

Publication

EP 2103726 B1 20110309 (EN)

Application

EP 09150519 A 20090114

Priority

JP 2008063474 A 20080313

Abstract (en)

[origin: EP2103726A1] A drum type washing machine (1) includes a housing, a washtub unit (7) accommodated in the housing, a damper (70) for elastically supporting the washtub at a supporting position, a vibration sensor (40) for detecting a vibration of the washtub. The vibration sensor outputs a first signal and a second signal corresponding to a component of vibration of a portion of the washtub along a first direction and a component of the vibration along a second direction perpendicular to the first direction, respectively. The portion of the washtub is between the center plane of the washtub and the opening of the washtub. A controller determines, based on the first and second signals output from the vibration sensor, whether or not the laundry is distributed in the rotary drum in a front unbalance in which the laundry is biased from the center plane towards the opening of the rotary drum, and whether or not the laundry is distributed in the rotary drum in a rear unbalance in which the laundry is biased from the center plane towards the bottom of the rotary drum. The drum type washing machine enables to detect unbalance of a laundry even when the laundry is biased in the rotary drum towards a bottom of the rotary drum.

IPC 8 full level

D06F 37/20 (2006.01); **D06F 33/76** (2020.01); **D06F 34/08** (2020.01)

CPC (source: EP US)

D06F 33/76 (2020.02 - EP US); **D06F 34/08** (2020.02 - EP US); D06F 2103/26 (2020.02 - EP US)

Cited by

CN112411124A; CN113265836A; EP2496745A4; EP2470706A4; EP3760781A1; US11674251B2; US9932699B2; US9822473B2; US10533275B2; US9145634B2; JP2014068791A; EP2496749B1; EP2496748B1

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

DOCDB simple family (publication)

EP 2103726 A1 20090923; **EP 2103726 B1 20110309**; AT E501296 T1 20110315; AU 2009200057 A1 20091001; AU 2009200057 B2 20100422; CN 101532234 A 20090916; CN 101532234 B 20110622; CN 201395714 Y 20100203; DE 602009000815 D1 20110421; ES 2360464 T3 20110606; JP 2009213803 A 20090924; JP 4756054 B2 20110824; MY 146696 A 20120914; RU 2394953 C1 20100720; SG 155829 A1 20091029; TW 200942659 A 20091016; TW I362439 B 20120421

DOCDB simple family (application)

EP 09150519 A 20090114; AT 09150519 T 20090114; AU 2009200057 A 20090107; CN 200910006590 A 20090219; CN 200920144483 U 20090219; DE 602009000815 T 20090114; ES 09150519 T 20090114; JP 2008063474 A 20080313; MY PI20090245 A 20090120; RU 2009109079 A 20090312; SG 2009002908 A 20090115; TW 98105766 A 20090224