

Title (en)

Method for limiting the imbalance of a washing unit of a clothes washer

Title (de)

Verfahren zum Begrenzen der Unwucht in einer Wäschewaschmaschine

Title (fr)

Procédé pour limiter le balourd dans une machine à laver le linge

Publication

**EP 1154064 B2 20100609 (EN)**

Application

**EP 01104871 A 20010228**

Priority

DE 10022609 A 20000509

Abstract (en)

[origin: EP1154064A2] The invention concerns a device to limit the imbalance of a washing unit of a clothes washer that has a laundry drum rotatably mounted in a tub and is suspended in the machine housing to allow oscillation with springs, weights providing inertia, vibration dampers and the drive motor, whereby several sensors distributed on the perimeter of a tub detect the deflections due to imbalance in the spin cycle, and undertake related countermeasures to limit the arising paths and forces. The washing unit is prevented from overloading due to imbalances in the spin cycle independent of the load in the laundry drum as follows: The sensors are perpendicular and/or parallel to the rotary axis of the laundry drum, and they detect the displacements as well as the phase shifts between the displacements, and control and/or regulating parameters are fed to the spin cycle depending on the detected displacements and phase shifts as well as the speed of the laundry drum and the drive motor.

IPC 8 full level

**D06F 37/20** (2006.01); **D06F 33/48** (2020.01)

CPC (source: EP US)

**D06F 33/48** (2020.02 - EP US); **D06F 2103/26** (2020.02 - EP US)

Citation (opposition)

Opponent :

- US 5561993 A 19961008 - ELGERSMA MICHAEL R [US], et al
- JP H06233890 A 19940823 - MATSUSHITA ELECTRIC IND CO LTD
- DE 740668 C 19530921 - SIEMENS AG
- JP H07114875 A 19950502 - NARITA MFG LTD
- "Des Ingenieurs Taschenbuch; pages 130-133, 566-569, 1448-1449", 1955
- Print out of: "Direct and Indirect Out - of - Balance of Future Generation Washing Machines" by Christophe Lemaire, presented at: 1999 Appliance Manufacturer Conference & Espo, September 27-29", retrieved from [www.analog.com](http://www.analog.com) under "technical article"
- DUBBEL: "Taschenbuch für den Maschinenbau", ISBN: 354052381217, pages: 016-017

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