

DRUM TYPE WASHING MACHINE

ABSTRACT

A drum type washing machine includes a housing, a washtub unit accommodated in the housing, a damper for elastically supporting the washtub at a supporting position, a vibration sensor for detecting a vibration of the washtub. The washtub unit includes a washtub having an opening therein, a rotary drum accommodated in the washtub, and a motor fixed to a bottom of the washtub and joined to a bottom of the rotary drum for rotating the rotary drum about a rotary axis. The rotary drum is adapted to accommodate a laundry. The supporting position and a center of gravity of the washtub unit approximate to the motor from a center plane which passes a center of the washtub and which is perpendicular to the rotary axis. The supporting position is distanced farther from the motor along a horizontal direction than the center of gravity is. 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.

FIG. 1