Title (en)
METHOD FOR AUTOMATICALLY EVALUATING THE DEGREE OF CLEANLINESS OF THE FILTERING SYSTEM IN A DISHWASHING MACHINE

Title (de)
VERFAHREN ZUR AUTOMATISCHEN BEURTEILUNG DES REINHEITSGRADES DES FILTERSYSTEMS IN EINER GESCHIRRSPÜLMASCHINE

Title (fr)
PROCÉDÉ D'ÉVALUATION AUTOMATIQUE DU DEGRÉ DE PROPRETÉ DU SYSTÈME DE FILTRAGE DANS UN LAVE-VAISSELLE

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Application
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Priority
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Abstract (en)
The present disclosure relates to a method for automatically evaluating the degree of cleanliness of the filtering system in a dishwashing machine (1) comprising a washing zone (2) provided with a washing fluid collection zone (2''') in which a filter (F) is positioned, comprising steps of: acquiring (11) a first digital image (11A) representative of a first condition of the filter (F), digitally processing (12) the first digital image 11A so as to obtain a first processed image 11B, wherein the first processed image (11B) identifies a first surface value related to the surface area of the collection tank (F'') of the filter (F) in a first condition in which the filter (F) is clean, acquiring (13) a second digital image (13A) representative of a second condition of the filter (F), digitally processing (14) the second digital image (13A) so as to obtain a second processed image (13B), wherein the second processed image (13B) identifies a second surface value related to the surface area of an accumulation of dirt present in the collection tank (F'') in a second condition in which the filter (F) contains an accumulation of dirt, comparing (15) the second surface value with the first surface value to calculate an occlusion percentage value (OCL) of the filter (F) when passing between the first condition and the second condition, generating (16) a dirt presence signal (Sig) indicative of the presence of an accumulation of dirt in said filter (F), when the occlusion percentage value (OCL) of the filter (F) exceeds a predefined threshold value, generating (17) a sound and/or visual signal indicative of an obstructed filter condition, when the dirt presence signal (Sig) is generated.

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Citation (applicant)
• WO 2016008699 A1 20160121 - BSH HAUSGERAETE GMBH [DE]
• US 2012138092 A1 20120607 - ASHRAFZADEH FARHAD [US], et al
• US 2013032171 A1 20130207 - HEIDEL ANDREAS [DE], et al

Citation (search report)
• [AD] US 2013032171 A1 20130207 - HEIDEL ANDREAS [DE], et al
• [A] EP 1512363 A1 20050309 - WHIRLPOOL CO [US]
• [A] EP 2022385 A1 20090211 - ELECTROLUX HOME PROD CORP [BE]
• [A] US 2014158163 A1 20140612 - MONTGOMERY MARK D [US], et al

Cited by
CN112914455A; CN116823363A

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