

Title (en)

Industrial dishwasher with improved water softening circuit and relevant operating method

Title (de)

Gewerblicher Geschirrspüler mit einem verbessertem Kreislauf zur Wasserenthärtung und entsprechendes Betriebsverfahren

Title (fr)

Lave-vaisselle industriel avec un circuit adoucisseur d'eau amélioré et procédé de fonctionnement associé

Publication

EP 2623013 A1 20130807 (EN)

Application

EP 12425021 A 20120202

Priority

EP 12425021 A 20120202

Abstract (en)

An industrial dishwasher includes a softener (2) with decalcifying resins through which water coming from the network (1) through a first inlet valve (EV1) reaches a break tank (3) and from there a heater (4) that feeds rinse sprinklers (6) by means of a rinse pump (5), a second network water inlet valve (EV2) that controls the flow towards a salt container (13) to obtain a sodium chloride solution which then reaches the softener (2), a deviating valve (14) located between the softener (2) and the break tank (3) and suitable to direct the water flow towards the break tank (3) through a first outlet (A) or directly towards a drain pipe (11) through a second outlet (B) and a first bypass pipe (BP1) that bypasses the break tank (3), as well as a third network water inlet valve (EV3) that controls the flow from the network (1) directly to the break tank (3) through a second bypass pipe (BP2) that bypasses the softener (2). In this way, it is possible to divide the hydraulic circuit of the dishwasher into a water softening circuit and a wash circuit that are completely independent and therefore to carry out the regeneration of the resins simultaneously with one or more wash cycles, without having to resort to pause periods or to complicated double water treatment circuits, whereby the regeneration is carried out only when required and without significantly affecting the exploitation of the machine.

IPC 8 full level

A47L 15/42 (2006.01); **A47L 15/00** (2006.01)

CPC (source: EP)

A47L 15/4221 (2013.01); **A47L 15/4229** (2013.01); **A47L 15/0078** (2013.01)

Citation (applicant)

EP 1905339 A1 20080402 - BONFERRARO SPA [IT]

Citation (search report)

- [AD] EP 1905339 A1 20080402 - BONFERRARO SPA [IT]
- [A] EP 1023868 A2 20000802 - PREMARK FEG LLC [US]
- [A] EP 1452123 A1 20040901 - ELECTROLUX AB [SE]
- [A] DE 3527047 A1 19870205 - LICENTIA GMBH [DE]
- [A] DE 1728233 A1 19720323 - BOSCH HAUSGERAETE GMBH

Cited by

CN107928590A; EP3666153A1; US10028637B2; EP3662807A1; EP2976979A1; JP2016022386A; AU2015205840B2; CN110693432A; JP2021530293A

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2623013 A1 20130807; **EP 2623013 B1 20140326**; PL 2623013 T3 20140829

DOCDB simple family (application)

EP 12425021 A 20120202; PL 12425021 T 20120202