

Title (en)

Improved multistage rinsing module for tunnel dishwashers, and a tunnel dishwasher provided with such a module

Title (de)

Verbessertes mehrstufiges Spülmodul für Tunnelgeschirrspüler und Tunnelgeschirrspüler mit solch einem Modul

Title (fr)

Module de rinçage multi-étages amélioré pour lave-vaisselle tunnel et lave-vaisselle tunnel équipé d'un tel module

Publication

EP 2881028 B1 20160629 (EN)

Application

EP 14198104 A 20120713

Priority

- IT MI20111324 A 20110715
- EP 12176400 A 20120713

Abstract (en)

[origin: EP2545839A1] A multistage rinsing module (10) for tunnel dishwashers (100) of the type comprising in succession from upstream to downstream following the movement of the dishes a draining zone (11) of the dishes full of detergent supplied in said module (10), a pre-rinsing zone (12) of said drained dishes and a final rinsing zone (13) of said drained and pre-rinsed dishes, said final rinsing zone (13) being provided with rinsing nozzles (14) for delivering net water (15), said pre-rinsing zone (12) being provided with pre-rinsing nozzles (16) for delivering a pre-rinsing solution (17) collected in a pre-rinsing tank (18), said pre-rinsing solution (17) comprising the net water (15) used in the preceding rinsing cycle and the substances removed from the rinsed dishes, characterised in that said draining zone (11) is provided with draining nozzles (19) for delivering a draining solution (20) collected in a draining tank (21), said draining solution (21) comprising said pre-rinsing solution (17) used in the preceding pre-rinsing cycle and the substances removed from the pre-rinsed dishes.

IPC 8 full level

A47L 15/24 (2006.01)

CPC (source: EP)

A47L 15/241 (2013.01); **A47L 15/247** (2013.01); **A47L 15/4291** (2013.01)

Citation (opposition)

Opponent : Hobart GmbH

- DE 102005062481 A1 20070705 - BSH BOSCH SIEMENS HAUSGERAETE [DE]
- DE 19608030 C1 19970710 - STIERLEN MAQUET AG [DE]
- DE 102009001429 A1 20100916 - BSH BOSCH SIEMENS HAUSGERAETE [DE]

Opponent : Winterhalter Gastronom GmbH

- EP 1815779 A2 20070808 - PREMARK FEG LLC [US]
- DE 4100164 C1 19920430
- WO 2010144307 A1 20101216 - PREMARK FEG LLC [US], et al
- EP 1042983 A1 20001011 - WEIGERT CHEM FAB [DE]
- EP 0838190 A2 19980429 - PREMARK FEG LLC [US]
- DE 102009024569 A1 20110407 - PREMARK FEG LLC [US]
- WO 2006081914 A1 20060810 - MEIKO MASCHINENBAU GMBH & CO [DE], et al
- DE 102007009252 A1 20080828 - MEIKO MASCHINENBAU GMBH & CO [DE]
- DE 102005039139 A1 20070222 - PREMARK FEG LLC [US]
- EP 1868481 B1 20100623 - PREMARK FEG LLC [US]
- WO 2009092404 A1 20090730 - MEIKO MASCHINENBAU GMBH & CO [DE], et al
- US 2011017234 A1 20110127 - LEHMANN DENIS [DE]
- DE 102004030003 A1 20060112 - PREMARK FEG L L C N D GES D ST [US]
- WO 2011062790 A2 20110526 - PREMARK FEG LLC [US], et al
- WO 2012020392 A2 20120216 - ECOLAB USA INC [US], et al
- "Merkblatt Gewerbliches Geschirrspülen und Spülmaschinen", GEWERBLICHES GESCHIRRSPÜLEN UND SPÜLMASCHINEN, January 2008 (2008-01-01), pages 1 - 10, XP055367494
- "Merkblatt Gewerbliches Geschirrspülen und Umwelt", GEWERBLICHES GESCHIRRSPÜLEN UND UMWELT, April 2004 (2004-04-01), pages 1 - 16, XP055367508
- "Merkblatt Gewerbliches Geschirrspülen und Wasser", GEWERBLICHES GESCHIRRSPÜLEN UND WASSER, January 2008 (2008-01-01), pages 1 - 8, XP055367518
- "Merkblatt Gewerbliches Geschirrspülen und Begriffe", GEWERBLICHES GESCHIRRSPÜLEN UND BEGRIFFE, January 2008 (2008-01-01), pages 1 - 18, XP055367524

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EP2545839B2

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DOCDB simple family (publication)

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