

Title (en)

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

Title (de)

Verbesserte mehrstufige Spülstation für Tunnelgeschirrspüler, und mit einer solchen Station ausgestatteter Tunnelgeschirrspüler

Title (fr)

Station de rinçage à plusieurs étages améliorée pour lave-vaisselle à tunnel, et lave-vaisselle à tunnel équipé d'une telle station

Publication

EP 2545839 B2 20220427 (EN)

Application

EP 12176400 A 20120713

Priority

IT MI20111324 A 20110715

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 :

- DE 102009024569 A1 20110407 - PREMARK FEG LLC [US]
- DE 102005039139 A1 20070222 - PREMARK FEG LLC [US]
- EP 2881028 A1 20150610 - COMENDA ALI S P A [IT]
- EP 1968481 A2 20080917 - OXYSURE SYSTEMS INC [US]
- WO 2006081914 A1 20060810 - MEIKO MASCHINENBAU GMBH & CO [DE], et al
- WO 2009092404 A1 20090730 - MEIKO MASCHINENBAU GMBH & CO [DE], et al
- DE 102007009252 A1 20080828 - MEIKO MASCHINENBAU GMBH & CO [DE]
- US 2011017234 A1 20110127 - LEHMANN DENIS [DE]
- DE 102004030003 A1 20060112 - PREMARK FEG L L C N D GES D ST [US]
- EP 1042983 A1 20001011 - WEIGERT CHEM FAB [DE]
- EP 0838190 A2 19980429 - PREMARK FEG LLC [US]

Cited by

CN113633239A; EP3210518A1; ITUB20161089A1; ITMI20130300A1; EP2772178A1; EP2772178B1

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

DOCDB simple family (publication)

EP 2545839 A1 20130116; **EP 2545839 B1 20150211**; **EP 2545839 B2 20220427**; EP 2881028 A1 20150610; EP 2881028 B1 20160629; ES 2536440 T3 20150525; ES 2536440 T5 20220803; ES 2594346 T3 20161219; IT MI20111324 A1 20130116; PL 2545839 T3 20151030

DOCDB simple family (application)

EP 12176400 A 20120713; EP 14198104 A 20120713; ES 12176400 T 20120713; ES 14198104 T 20120713; IT MI20111324 A 20110715; PL 12176400 T 20120713