

Title (en)
METHOD AND DEVICE FOR ULTRASONIC CLEANING

Title (de)
VERFAHREN UND VORRICHTUNG ZUR ULTRASCHALLREINIGUNG

Title (fr)
PROCÉDÉ ET DISPOSITIF DE NETTOYAGE PAR ULTRASONS

Publication
EP 3260209 A1 20171227 (EN)

Application
EP 16382293 A 20160623

Priority
EP 16382293 A 20160623

Abstract (en)
A method for ultrasonic cleaning of a part (60, 600) which comprises: applying a cleaning solution on a surface (65, 650) of a part (60, 600) to be cleaned; moving (M) a device (10, 10', 100) comprising a sonotrode (4, 4', 40, 50) along said surface (65, 650), maintaining a distance (D) between said surface (65, 650) and the output surface (4e, 4e', 40e, 50e) of the sonotrode (4, 4', 40, 50) closest to said surface (65, 650); applying ultrasonic vibration (V) by the output surface (4e, 4e', 40e, 50e) of the sonotrode (4, 4', 40, 50), wherein the applied ultrasonic vibration (V) has a certain vibration amplitude; as a consequence of said ultrasonic vibration (V), generating a linear homogeneous column (20) of cleaning solution between said output surface (4e, 4e', 40e, 50e) of the sonotrode (4, 4', 40, 50) and said surface (65, 650) and exposing said surface (65, 650) in contact with said linear homogeneous column (20) of cleaning solution to cavitation, thus removing dirt (70) from said surface (65, 650).

IPC 8 full level
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CPC (source: EP ES)
A47L 1/02 (2013.01 - EP ES); **A47L 1/08** (2013.01 - EP ES); **A47L 11/03** (2013.01 - EP ES); **A47L 11/125** (2013.01 - EP ES); **A47L 13/26** (2013.01 - EP ES); **B08B 3/12** (2013.01 - EP ES)

Citation (search report)

- [X1] JP H06218337 A 19940809 - KAIJO KK
- [A] US 2003183246 A1 20031002 - BOYD JOHN M [US], et al
- [A] US 2011041879 A1 20110224 - TAKEUCHI MITSUO [JP], et al
- [A] US 2015352606 A1 20151210 - KUBO YUJI [JP]
- [A] WO 03068487 A1 20030821 - TETRA LAVAL HOLDINGS & FINANCE [CH], et al

Cited by
FR3135604A1; ES2944612A1; WO2023222789A1; WO2023118627A1

Designated contracting state (EPC)
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Designated extension state (EPC)
BA ME

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