

Title (en)

Method for removing sludge and deposits from the interior of a heat exchanger vessel.

Title (de)

Methode zum Beseitigen von Schlamm und Ablagerungen aus dem Inneren eines Wärmetauscherbehälters.

Title (fr)

Méthode pour enlever les boues et les dépôts à l'intérieur d'un réservoir d'échangeur de chaleur.

Publication

EP 0484042 A1 19920506 (EN)

Application

EP 91309816 A 19911023

Priority

US 60520090 A 19901029

Abstract (en)

Method for removing sludge and deposits (32) from the interior of a heat exchanger vessel (1). The method includes the steps of filling the interior of the secondary side (5) of the heat exchanger vessel (1) with an aqueous solution of a cleaning agent formed from at least one of the group consisting of surfactants, dispersants, thixotropes and flotation agents, recirculating the aqueous solution within the secondary side (5) while simultaneously filtering it to remove sludge and deposits (32) entrained within the solution, and draining the aqueous solution from the secondary side (5) while continuously introducing a succession of pressurized pulses of gas into the solution during the filling, recirculation and draining steps in order to create shock waves in the solution which loosen and fluidize sludge and deposits (32) present within the secondary side (5). <IMAGE>

IPC 1-7

F22B 37/48; F28G 7/00; F28G 9/00

IPC 8 full level

B08B 9/093 (2006.01); **F22B 37/48** (2006.01); **F28G 7/00** (2006.01)

CPC (source: EP)

F22B 37/483 (2013.01)

Citation (search report)

- [A] US 4320528 A 19820316 - SCHARTON TERRY D, et al
- [A] EP 0339289 A1 19891102 - WESTINGHOUSE ELECTRIC CORP [US]
- [E] EP 0458533 A1 19911127 - WESTINGHOUSE ELECTRIC CORP [US]
- [A] US 3447965 A 19690603 - TEUMAC FRED N
- [A] EP 0155568 A2 19850925 - WESTINGHOUSE ELECTRIC CORP [US]
- [A] EP 0198340 A1 19861022 - KRAFTWERK UNION AG [DE]
- [A] FR 2419118 A1 19791005 - MITSUBISHI HEAVY IND LTD [JP]
- [A] PATENT ABSTRACTS OF JAPAN vol. 6, no. 50 (M-120)(928) 3 April 1982 & JP-A-56 165 900 (SHINKOU KAWADA) 19 December 1981

Cited by

FR2761803A1; US5339621A; US9751114B2; US11173525B2

Designated contracting state (EPC)

BE CH ES FR GB IT LI SE

DOCDB simple family (publication)

EP 0484042 A1 19920506; EP 0484042 B1 19950426; ES 2072555 T3 19950716; JP 2952090 B2 19990920; JP H04281196 A 19921006

DOCDB simple family (application)

EP 91309816 A 19911023; ES 91309816 T 19911023; JP 28277491 A 19911029