

Title (en)  
Heat exchanger.

Title (de)  
Wärmetauscher.

Title (fr)  
Echangeur de chaleur.

Publication  
**EP 0632246 A3 19950412 (EN)**

Application  
**EP 94304576 A 19940623**

Priority  
JP 3648193 U 19930702

Abstract (en)  
[origin: EP0632246A2] A heat exchanger includes a pair of tanks (14,15) and a heat exchanger core comprising a plurality of upstream and downstream heat-transfer tubes (11,31,41) and fin units (12). The downstream tubes have a cross sectional area which is greater than that of the upstream tubes for preventing the downstream heat-transfer tubes from becoming clogged by corrosion products which are grown in the upstream tubes. Further, a filter device (24) may be disposed in the tank for filtering out corrosion products before they enter the downstream tubes. <IMAGE>

IPC 1-7  
**F28D 1/053**; **F28F 19/00**; **F28F 13/08**

IPC 8 full level  
**F28D 1/04** (2006.01); **F28D 1/053** (2006.01); **F28F 13/08** (2006.01); **F28F 19/00** (2006.01); **F28F 19/01** (2006.01)

CPC (source: EP)  
**F28D 1/0408** (2013.01); **F28D 1/05375** (2013.01); **F28D 1/05383** (2013.01); **F28F 13/08** (2013.01); **F28F 19/00** (2013.01); **F28F 19/01** (2013.01); **F28F 2210/08** (2013.01)

Citation (search report)  
• [A] US 5107921 A 19920428 - TSAI FRANK W [US]  
• [A] US 4387764 A 19830614 - LISTER MARC D  
• [DA] US 4645000 A 19870224 - SCARSELLETTA LOUIS [US]

Cited by  
EP0855567A3; CN102735077A; DE102006035993A1; DE19814827A1; DE19814827B4; US6341648B1; EP2818822A1; FR3007513A1; US7337832B2; WO2004099695A1; WO2007124484A3; US8256746B2

Designated contracting state (EPC)  
DE FR GB IT SE

DOCDB simple family (publication)  
**EP 0632246 A2 19950104**; **EP 0632246 A3 19950412**; **EP 0632246 B1 19980506**; DE 69410022 D1 19980610; DE 69410022 T2 19981022; JP 2603450 Y2 20000313; JP H0712760 U 19950303

DOCDB simple family (application)  
**EP 94304576 A 19940623**; DE 69410022 T 19940623; JP 3648193 U 19930702