

Title (en)
REFRIGERATED CASE

Title (de)
GEKÜHLTES GEHÄUSE

Title (fr)
VITRINE RÉFRIGÉRÉE

Publication
EP 2445377 B1 20191113 (EN)

Application
EP 10801028 A 20101213

Priority
• US 2010060028 W 20101213
• US 30857110 P 20100226

Abstract (en)
[origin: WO2011106063A2] A plate fin heat exchanger (70) has a plurality of tube sections (154, 156, 158, 160) extending across an air flowpath (98). These include a first group (154) of sections forming a leading group. The heat exchanger includes a shield (170) for preferentially shielding portions (182) of the fins (162) ahead of the leading group against debris accumulation.

IPC 8 full level
A47F 3/00 (2006.01); **F25B 47/00** (2006.01); **F25D 23/00** (2006.01)

CPC (source: EP)
A47F 3/0447 (2013.01); **F25B 39/00** (2013.01); **F25B 47/00** (2013.01); **F28D 1/0477** (2013.01); **F28F 1/32** (2013.01); **F28F 19/00** (2013.01); **F28F 2265/02** (2013.01)

Citation (examination)
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• EP 2011976 A1 20090107 - CALSONIC KANSEI CORP [JP]
• US 2003141046 A1 20030731 - IKEDA TORU [JP], et al
• DE 3110448 C1 19830601 - KLOECKNER HUMBOLDT DEUTZ AG
• JP 2006349340 A 20061228 - MATSUSHITA REFRIGERATION
• US 2902264 A 19590901 - SCHICK FREDERICK A, et al
• GB 590806 A 19470729 - LEOPOLD FRIEDMAN
• JP S5580693 U 19800603
• JP S6032682 U 19850306

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EP4227608A4

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)
WO 2011106063 A2 20110901; WO 2011106063 A3 20111222; CN 102770049 A 20121107; CN 102770049 B 20160518;
EP 2445377 A2 20120502; EP 2445377 B1 20191113

DOCDB simple family (application)
US 2010060028 W 20101213; CN 201080064761 A 20101213; EP 10801028 A 20101213