

Title (en)
HEAT EXCHANGER EVALUATING DEVICE, HEAT EXCHANGER EVALUATING METHOD, HEAT EXCHANGER MANUFACTURING METHOD,
AND HEAT EXCHANGER DESIGNING METHOD

Title (de)
WÄRMETAUSCHERAUSWERTUNGSVORRICHTUNG, WÄRMETAUSCHERAUSWERTUNGSVERFAHREN,
WÄRMETAUSCHERHERSTELLUNGSVERFAHREN UND WÄRMETAUSCHERENTWURFSVERFAHREN

Title (fr)
DISPOSITIF ET PROCÉDÉ D'ÉVALUATION D'ÉCHANGEUR DE CHALEUR, PROCÉDÉ DE FABRICATION D'ÉCHANGEUR DE CHALEUR ET
PROCÉDÉ DE CONCEPTION D'ÉCHANGEUR DE CHALEUR

Publication
EP 3431904 A4 20190417 (EN)

Application
EP 17766516 A 20170309

Priority
• JP 2016050950 A 20160315
• JP 2017009351 W 20170309

Abstract (en)
[origin: EP3431904A1] The present invention prevents a refrigerant from accumulating in a refrigerant flow path in a heat exchanger as much as possible. This evaluating device is for a heat exchanger (100, 200) including a heat exchanging unit (10) that causes a refrigerant to circulate through a plurality of multistage refrigerant flow paths (11, 12, 13, 14) arranged in a vertical direction, and performs heat exchange between the refrigerant and air; a refrigerant header (40) that allows a gas phase refrigerant to circulate therethrough and is connected to a first end side of each of the plurality of refrigerant flow paths (11, 12, 13, 14); a plurality of capillary tubes (21 c1 , 21 c2 , 21 ci ,..., 21 cbottom) that are connected to respective second end sides of the plurality of refrigerant flow paths (11, 12, 13, 14); and a distributor (50) that joins the plurality of capillary tubes (21 c1 , 21 c2 , 21 ci ,..., 21 cbottom) at a joining position. The evaluating device is provided with a determination unit that determines, for each of the refrigerant flow paths (11, 12, 13, 14), whether the refrigerant has accumulated in the heat exchanging unit (10) on the basis of a relationship between a vertical height of the refrigerant flow path (11, 12, 13, 14) at an outlet of the heat exchanging unit (10), a first pressure loss (Pri) of the refrigerant in the refrigerant flow path (11, 12, 13, 14) of the heat exchanging unit (10), a second pressure loss (Pci) of the refrigerant in the corresponding capillary tube (21 c1 , 21 c2 , 21 ci ,..., 21 cbottom), and a vertical height (hi) from a bottom edge of the heat exchanging unit (10) to the vertically lowermost refrigerant flow path (14).

IPC 8 full level
F25B 39/00 (2006.01); **F25B 13/00** (2006.01); **F25B 39/02** (2006.01); **F25B 41/00** (2006.01); **F25B 49/02** (2006.01); **F28D 1/04** (2006.01)

CPC (source: EP)
F25B 13/00 (2013.01); **F25B 39/028** (2013.01); **F25B 41/00** (2013.01); **F28D 1/04** (2013.01)

Citation (search report)
• [X1] EP 2924368 A1 20150930 - MITSUBISHI ELECTRIC CORP [JP]
• See references of WO 2017159515A1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3431904 A1 20190123; EP 3431904 A4 20190417; CN 108474597 A 20180831; JP 2017166728 A 20170921; WO 2017159515 A1 20170921

DOCDB simple family (application)
EP 17766516 A 20170309; CN 201780005295 A 20170309; JP 2016050950 A 20160315; JP 2017009351 W 20170309