

Title (en)  
HEAT EXCHANGER WITH THICK-FILM RESISTOR

Title (de)  
WÄRMETAUSCHER MIT DICKSCHICHTWIDERSTAND

Title (fr)  
ECHANGEUR DE CHALEUR AVEC RÉSISTANCE À COUCHE ÉPAISSE

Publication  
**EP 4343224 A1 20240327 (EN)**

Application  
**EP 22197192 A 20220922**

Priority  
EP 22197192 A 20220922

Abstract (en)  
The present invention relates to a heat exchanger (1) for heating a fluid having at least two distanced tube bodies (3) through which a flow path (8) of the fluid leads. A simplified manufacture and/or a reduced construction size and/or an increased heating efficiency of the heat exchanger (1) are achieved by arranging a separately produced thin-film resistor (11) on the outer surface (12) of at least one of the tube bodies (3) and connecting thin-film resistor (11) to the outer surface (12) of the corresponding tube body (3) and by arranging an outer interface (13) made of a thermal interface material between the thick-film resistor (11) and the next neighbouring tube body (3)

IPC 8 full level  
**F24H 1/00** (2022.01); **F24H 1/14** (2022.01); **F24H 3/04** (2022.01); **F24H 9/1818** (2022.01); **F24H 9/1863** (2022.01); **H05B 3/46** (2006.01)

CPC (source: EP)  
**F24H 1/009** (2013.01); **F24H 1/142** (2013.01); **F24H 3/0429** (2013.01); **F24H 9/1818** (2013.01); **F24H 9/1863** (2013.01); **H05B 3/46** (2013.01); **H05B 2203/013** (2013.01); **H05B 2203/021** (2013.01)

Citation (search report)

- [X1] JP 2002283835 A 20021003 - CALSONIC KANSEI CORP
- [X] JP 2002283834 A 20021003 - CALSONIC KANSEI CORP
- [I] US 2016069588 A1 20160310 - KOMINAMI SATOSHI [JP], et al
- [I] US 2017370614 A1 20171228 - LIU FENG [CN]
- [A] US 2021153306 A1 20210520 - BOEGERSHAUSEN STEFAN [DE], et al

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

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
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