

Title (en)
INSTRUMENTED HEAT EXCHANGER AND METHOD FOR ESTIMATING A LIFESPAN OF SAID HEAT EXCHANGER

Title (de)
INSTRUMENTIERTER WÄRMETAUSCHER UND VERFAHREN ZUR SCHÄTZUNG DER LEBENSDAUER DES BESAGTEN WÄRMETAUSCHERS

Title (fr)
ÉCHANGEUR DE CHALEUR INSTRUMENTÉ ET PROCÉDÉ D'ESTIMATION D'UNE DURÉE DE VIE DE CET ÉCHANGEUR DE CHALEUR

Publication
EP 4259996 A1 20231018 (FR)

Application
EP 21839053 A 20211209

Priority

- FR 2012926 A 20201209
- EP 2021085007 W 20211209

Abstract (en)
[origin: WO2022122926A1] Heat exchanger (1) comprising: - several adjacent rectangular frames (2), each rectangular frame (2) defining an inner volume (4) in which a fluid can circulate; - a separation wall (5) which is arranged between each adjacent frame (2, 6) and separates the inner volumes (4) from one another; - a closing wall (9) which is arranged on each rectangular end frame (6) and designed to close the inner volume (4) of the rectangular end frames (6); - a plurality of fluid inlets (10), each in fluid communication with an inner volume (4) and a plurality of fluid outputs (31), each in fluid communication with an inner volume (4), the fluid inlets (10) and outlet (31) being located on the rectangular frames (2); - at least one fluid distributor (11) arranged to distribute a fluid toward at least some of the fluid inlets (10); - at least one fluid collector (12) arranged to collect a fluid exiting from at least some of the fluid outlets (31); - at least one temperature gauge (20) capable of measuring a temperature of the fluid; - at least one pressure gauge (21) capable of measuring a pressure of the fluid; - at least one strain gauge (22, 26, 27) capable of measuring a deformation on the heat exchanger (1); and, - a communication device (23) capable of receiving the measurements from the gauges (20, 21, 22, 26, 27) and sending them to an information processing unit (24).

IPC 8 full level
F28F 27/00 (2006.01); **F28D 9/00** (2006.01)

CPC (source: EP US)
F28D 9/00 (2013.01 - EP); **F28F 9/001** (2013.01 - US); **F28F 9/02** (2013.01 - EP); **F28F 9/0224** (2013.01 - US); **F28F 27/00** (2013.01 - EP US); **F28D 2021/0033** (2013.01 - EP); **F28D 2021/0059** (2013.01 - EP); **F28F 2200/00** (2013.01 - EP US); **F28F 2230/00** (2013.01 - US)

Citation (search report)
See references of WO 2022122926A1

Designated contracting state (EPC)
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Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
FR 3117202 A1 20220610; FR 3117202 B1 20230331; EP 4259996 A1 20231018; US 2024027148 A1 20240125; WO 2022122926 A1 20220616

DOCDB simple family (application)
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