

Title (en)

DEVICE AND METHOD FOR ASCERTAINING THE THERMAL CONDUCTIVITY OF A FLUID

Title (de)

VORRICHTUNG UND VERFAHREN ZUM ERMITTELN DER WÄRMELEITFÄHIGKEIT EINES FLUIDS

Title (fr)

DISPOSITIF ET PROCÉDÉ PERMETTANT DE DÉTERMINER LA CONDUCTIVITÉ THERMIQUE D'UN FLUIDE

Publication

EP 4143553 A1 20230308 (DE)

Application

EP 21723172 A 20210428

Priority

- DE 102020111862 A 20200430
- DE 102020115467 A 20200610
- DE 102020131192 A 20201125
- EP 2021061124 W 20210428

Abstract (en)

[origin: WO2021219709A1] The invention relates to a device for ascertaining a property of a fluid, having: an electric conductor assembly (2, 200, 300) which is designed to be at least partly brought into contact with the fluid and which is designed as a voltage divider with two elements (21, 221, 321, 521, 22, 222, 322), wherein the first element is a first conductor (21, 221, 321, 521) which, at least in a current-conducting state, has a resistance value that differs from that of the second element (22, 222, 322); a measuring bridge (4, 240, 340) with two voltage dividers connected in parallel, one of said voltage dividers being formed by the electric conductor assembly (2, 200, 300); an actuation unit (6) for applying an AC voltage (U₀) to the measuring bridge (4, 240, 340); a voltage detection unit (8) for detecting a bridge voltage (U_b); and an analysis unit (10) which is configured to ascertain a thermal conductivity as the property of the fluid by analyzing the bridge voltage (U_b) using the 3-omega method.

IPC 8 full level

G01N 27/18 (2006.01)

CPC (source: EP US)

G01N 25/18 (2013.01 - EP US); **G01N 27/18** (2013.01 - EP); **G01F 23/0007** (2013.01 - EP)

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)

DE 102020131192 A1 20211104; CN 116261660 A 20230613; EP 4143553 A1 20230308; US 2023168215 A1 20230601; WO 2021219709 A1 20211104

DOCDB simple family (application)

DE 102020131192 A 20201125; CN 202180031968 A 20210428; EP 2021061124 W 20210428; EP 21723172 A 20210428; US 202117922467 A 20210428