

Title (en)

ACOUSTIC ABSORBER, ACOUSTIC WALL AND METHOD FOR DESIGN AND PRODUCTION

Title (de)

AKUSTISCHER ABSORBER, AKUSTISCHE WAND UND VERFAHREN ZUR KONSTRUKTION UND HERSTELLUNG

Title (fr)

ABSORBEUR ACOUSTIQUE, PAROI ACOUSTIQUE ET PROCÉDÉ DE CONCEPTION ET FABRICATION

Publication

**EP 3414756 B1 20200129 (FR)**

Application

**EP 17706702 A 20170208**

Priority

- FR 1650983 A 20160208
- EP 2017052787 W 20170208

Abstract (en)

[origin: WO2017137455A1] The invention relates to a passive sound absorber (3, 4, 6, 7, 8) comprising a closed cavity (30, 80) opening to the outside via an inlet direction (D3) via a collar passing through the front wall in order to form a Helmholtz resonator for a first frequency. According to the invention, said absorber further comprises at least one moving element, or membrane (32, 42, 62, 72a, 72b), suspended or held by suspensions (33, 43, 6140) in a position obstructing said collar in a non-sealed manner. The relative stiffness of the suspensions and of the membrane is determined such that the assembly resonates in a vibration following a "piston" movement at a second frequency different from the first frequency, producing an absorption for said second frequency or range of frequencies. A hybrid version comprises a coil (324) that is controlled to adjust the acoustic impedance of the absorber. The invention proposes an acoustic wall comprising a plurality of such absorbers produced by a repetitive structure opening through perforations, each receiving such a membrane, as well as a method for designing and producing such an absorber or wall.

IPC 8 full level

**E04B 1/86** (2006.01); **E04B 1/84** (2006.01); **G10K 11/16** (2006.01); **H04R 1/28** (2006.01); **H04R 9/06** (2006.01)

CPC (source: EP KR US)

**E04B 1/8209** (2013.01 - KR); **E04B 1/86** (2013.01 - EP KR US); **G10K 11/16** (2013.01 - EP KR US); **H04R 1/2896** (2013.01 - US); **H04R 9/06** (2013.01 - US); **E04B 2001/8428** (2013.01 - KR); **E04B 2001/8485** (2013.01 - EP KR US)

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)

**FR 3047600 A1 20170811**; **FR 3047600 B1 20180202**; CN 108780637 A 20181109; CN 108780637 B 20230725; EP 3414756 A1 20181219; EP 3414756 B1 20200129; JP 2019511014 A 20190418; JP 6985575 B2 20211222; KR 20180111976 A 20181011; US 10477302 B2 20191112; US 2019058941 A1 20190221; WO 2017137455 A1 20170817

DOCDB simple family (application)

**FR 1650983 A 20160208**; CN 201780010387 A 20170208; EP 17706702 A 20170208; EP 2017052787 W 20170208; JP 2018560253 A 20170208; KR 20187026092 A 20170208; US 201716075926 A 20170208