

Title (en)
PIEZOELECTRIC PUMP AND PUMP UNIT

Title (de)
PIEZOELEKTRISCHE PUMPE UND PUMPENEINHEIT

Title (fr)
POMPE PIÉZOÉLECTRIQUE ET UNITÉ DE POMPE

Publication
EP 4030055 A4 20231004 (EN)

Application
EP 20863625 A 20200907

Priority
• JP 2019165693 A 20190911
• JP 2020033802 W 20200907

Abstract (en)
[origin: EP4030055A1] A pump unit includes a piezoelectric pump and a housing accommodating the piezoelectric pump. The piezoelectric pump includes a piezoelectric device having a through-hole, a first elastic plate covering an end of the through-hole, and a second elastic plate covering another end of the through-hole. The first elastic plate has a communication hole communicating with the through-hole of the piezoelectric device.

IPC 8 full level
F04B 43/04 (2006.01); **F04B 43/02** (2006.01); **F04B 45/02** (2006.01); **F04B 45/04** (2006.01); **F04B 45/047** (2006.01)

CPC (source: CN EP US)
F04B 39/121 (2013.01 - CN); **F04B 43/025** (2013.01 - EP US); **F04B 43/028** (2013.01 - EP US); **F04B 43/046** (2013.01 - CN EP US); **F04B 45/043** (2013.01 - EP US); **F04B 45/045** (2013.01 - EP); **F04B 45/047** (2013.01 - CN EP); **F04B 53/16** (2013.01 - CN US); **F04B 2205/09** (2013.01 - EP)

Citation (search report)
• [XAY] CN 105508207 A 20160420 - UNIV JILIN
• [Y] CN 108344198 A 20180731 - UNIV ZHEJIANG NORMAL
• [XA] EP 3147504 A1 20170329 - MURATA MANUFACTURING CO [JP]
• [A] WO 2014024608 A1 20140213 - MURATA MANUFACTURING CO [JP]
• [A] US 2015150470 A1 20150604 - SANO YOSHIHIKO [JP], et al
• See also references of WO 2021049460A1

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)
EP 4030055 A1 20220720; **EP 4030055 A4 20231004**; CN 114222859 A 20220322; JP 7337180 B2 20230901; JP WO2021049460 A1 20210318; US 2022316467 A1 20221006; WO 2021049460 A1 20210318

DOCDB simple family (application)
EP 20863625 A 20200907; CN 202080056754 A 20200907; JP 2020033802 W 20200907; JP 2021545525 A 20200907; US 202017641564 A 20200907