

Title (en)  
ULTRASONIC MACHINING APPARATUS

Title (de)  
ULTRASCHALLBEARBEITUNGSVORRICHTUNG

Title (fr)  
APPAREIL D'USINAGE PAR ULTRASONS

Publication  
**EP 3632615 A1 20200408 (EN)**

Application  
**EP 18806610 A 20180523**

Priority  
• JP 2017103891 A 20170525  
• JP 2018019802 W 20180523

Abstract (en)  
Provided is an ultrasonic machining apparatus enabling improvement of precision of micromachining of a workpiece. An ultrasonic machining apparatus 10 includes a base 12, a stage 14 arranged with the base 12 as a base, and a support column 16. The ultrasonic machining apparatus 10 further includes an ultrasonic unit 18 configured to generate micro-vibration in directions along the support column 16, and a holder 20 that supports the ultrasonic unit 18 along the support column 16. The holder 20 includes guide rollers 22 configured to guide the ultrasonic unit 18 such that the ultrasonic unit 18 vibrates along an upright axis of the support column 16. At least one guide roller (e.g., a guide roller 22c) of the guide rollers 22 is provided with a biasing device 36 that generates a biasing force toward an axial center of the ultrasonic unit 18.

IPC 8 full level  
**B24B 37/00** (2012.01); **B24B 1/04** (2006.01)

CPC (source: EP)  
**B24B 1/04** (2013.01); **B24B 35/00** (2013.01); **B24B 37/00** (2013.01)

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

DOCDB simple family (publication)  
**EP 3632615 A1 20200408**; **EP 3632615 A4 20210324**; JP 2018199174 A 20181220; JP 6286600 B1 20180228; TW 201900385 A 20190101; TW I717608 B 20210201; WO 2018216720 A1 20181129

DOCDB simple family (application)  
**EP 18806610 A 20180523**; JP 2017103891 A 20170525; JP 2018019802 W 20180523; TW 107117697 A 20180524