

Title (en)
DEVICE FOR THE HIGH-PRECISION MACHINING OF THE SURFACE OF AN OBJECT, ESPECIALLY FOR POLISHING AND LAPPING
SEMICONDUCTOR SUBSTRATES

Title (de)
VORRICHTUNG ZUR HOCHGENAUEN BEARBEITUNG DER OBERFLÄCHE EINES OBJEKTES, INSBESONDERE ZUM POLIEREN UND
LÄPPEN VON HALBLEITERSUBSTRATEN

Title (fr)
DISPOSITIF POUR L'USINAGE HAUTE PRECISION DE LA SURFACE D'UN OBJET, EN PARTICULIER POUR LE POLISSAGE ET LE RODAGE
DE SUBSTRATS SEMICONDUCTEURS

Publication
EP 1587649 B1 20080305 (DE)

Application
EP 04704541 A 20040123

Priority
• DE 2004000104 W 20040123
• DE 10303407 A 20030127

Abstract (en)
[origin: WO2004067228A1] The aim of the invention is to machine the surface of objects using a universal device, as economically as possible and in a significantly reduced amount of time, even in the event of process variations, material non-homogeneities etc., with high reproducible precision. To this end, the pressure distribution on the surface, which is decisive for the machining process, is determined by temporarily weighting the object to be machined - said object being fixed to a receiving surface (17) - and measuring the thus occurring change in position of the receiving surface (17) by means of actuator-sensor elements (18) in a space-resolved manner. Correcting variables for the local deformation of the receiving surface (17) are generated for the actuator-sensor elements (18) from the calculated pressure distribution. The invention can generally be applied to the surface machining of objects beyond the lapping or polishing of the above-mentioned semiconductor substrates.

IPC 8 full level
B24B 37/30 (2012.01); **B24B 49/16** (2006.01)

CPC (source: EP US)
B24B 37/30 (2013.01 - EP US); **B24B 49/16** (2013.01 - EP US)

Cited by
DE102014109654A1; DE102014109654B4

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2004067228 A1 20040812; AT E387987 T1 20080315; DE 10303407 A1 20040819; DE 112004000549 D2 20051208;
DE 502004006407 D1 20080417; EP 1587649 A1 20051026; EP 1587649 B1 20080305; JP 2006513050 A 20060420;
US 2006135040 A1 20060622; US 7160177 B2 20070109

DOCDB simple family (application)
DE 2004000104 W 20040123; AT 04704541 T 20040123; DE 10303407 A 20030127; DE 112004000549 T 20040123;
DE 502004006407 T 20040123; EP 04704541 A 20040123; JP 2005518396 A 20040123; US 54386905 A 20050919