Title (en)

DEVICE FOR ULTRASONIC MACHINING WORKPIECES

Title (de)

VORRICHTUNG ZUM ULTRASCHALLBEARBEITEN VON WERKSTÜCKEN

Title (fr)

DISPOSITIF POUR USINER DES PIECES PAR ULTRASONS

Publication

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Application

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Abstract (en)

[origin: WO2007020208A2] The invention relates to a sonotrode (1) for ultrasonic machining workpieces. The sonotrode (1) is connected on the input side to a drive (5) with at least two ultrasonic transmitter units excited by an ultrasonic generator, is provided with a narrow and long machining surface (12) in front on the output side of the sonotrode, and is provided, at the side, with at least one slot (10) situated approximately between two ultrasonic transmitter units. In order to obtain a narrow and long machining surface (12) in front on the output side of the sonotrode (1), whereby the machining surface has a length of more than twice the effective machining length so that it extends away over the crosswise dimension even of a wider workpiece, and the height of the device, which is measured from the front machining surface to behind over the drive (5), is not significantly greater than ?/2. To this end, the invention provides that; the sonotrode (1), from its machining surface (12) toward the rear in the direction of its height (H) while leaving recesses (6) for receiving the respective drive (5), is provided as a single piece up to its rear flat surface (13) that, on the input side of the sonotrode (1) opposite the output side machining surface (12), is provided approximately parallel to the machining surface (12) and is almost as long but wider than the latter, and; the outer surface of the sonotrode (1) is closed up to the at least one slot (10) and up to the openings, which are located in the rear flat surface (13) and serve for accessing the recesses (6) for the drives (5). The overall height of the sonotrode is = ?/2, with ? being equal to the wavelength of the wave oscillating in the direction of its height (H).

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