

Hydraulic pulse vibration-impact apparatus for radial and axial vibration grinding, featuring a built-in pressure pulse generator with separate sealing elements for the sealing areas, comprises of a pressure chamber, an intermediate chamber, and a drain chamber, a square-section housing with a mounting foot for securing it in a standardized tool-holder of a machine unit and a power supply chamber, in which the first sealing element of the first sealing area is located, which, with the end face of its sealing portion, rests against the spherical end face of a cylindrical pusher via a spherical recess formed thereon, the other end face of which is designed to contact the bottom of a bore in the housing, in which a stack of disc springs mounted on the cylindrical portion of the cutter holder is located. The cylindrical portion of the cutter is pressed against the spherical end face of the cylindrical pusher by a stack of disc springs via a spherical recess at its end face, while the other end of the stack of disc springs rests against the front cover secured to the body, which contains a central axial bore of rectangular cross-section, conjugated via a sliding fit with the part of the cutter holder in which the connecting portion is formed as a Morse taper. To prevent angular displacement, the side surface of the holder is milled down, which is conjugated with the corresponding milled groove on the cutter, and secured the cutter parallel or perpendicular to the axis of the rectangular-cross-section apparatus. A gap is formed between the inner end face of the front cover and the end face of the transition from the rectangular cross-section of the cutter holder to the circular cross-section of its cylindrical part, and the spring portion of the locking element of the first sealing area of the pressure regulator screw for opening the pressure pulse generator is designed to contact the rear cover attached to the apparatus body, on which fittings are installed for supplying the working fluid via a hydraulic pump and draining it into the hydraulic tank. A second sealing element for the second sealing area is additionally mounted in the body. In their initial position, the first and second sealing elements of the first and second sealing areas form the pressure, intermediate, and drain chambers. The second sealing element of the second sealing area is installed with one end in the central bore of the body, and the other end is installed so that it can contact the adjustment cup, on which the adjustment cup locknut is installed. The first sealing element of the first sealing area rests with one end against the central bore of the housing, and the other end is mounted so that it can contact, via a plunger, the adjustment screw, on which the adjustment screw locknut is installed.