

Title (en)

DRIVE SYSTEM FOR HYDRAULIC PRESSES

Title (de)

ANTRIEBSSYSTEM FÜR HYDRAULISCHE PRESSEN

Title (fr)

SYSTÈME D'ENTRAÎNEMENT POUR PRESSES HYDRAULIQUES

Publication

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Application

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Abstract (en)

[origin: WO2009026893A1] The invention relates to a drive system for hydraulic presses, which allows constant and symmetrical prestressing of the press frame (1), said prestressing being independent of the required forming force, and thus precise guidance of the slide (2), wherein the drive (20) must only apply the energy in fact required for the forming operation. By rigidly coupling (19c) a plurality of movable separating elements (18a, 18b) having a common drive (20), through an appropriate association of the counter-acting cylinders (9a, 9b) with the hydraulic coupling device (17a, 17b) passive and force-neutral parallelism control of the slide (2) can be achieved, whereby for one the maximum slide tilt during eccentric load is limited, and secondly the force to be applied by the drive (20) furthermore is proportional to the forming force in fact required. If increased requirements are placed on the parallelism of the slide (2), said parallelism control may be superimposed by an active parallelism control (25, 26), which has high dynamics due to the low volume currents. Due to the prestressing of the press frame (1) being constant during the entire press stroke, elastic deformations are minimized, and furthermore, as a result of the constant pressure in the slide cylinder (6), the hydraulic medium volume enclosed therein has no influence on efficiency and cycle times. By minimizing the hydraulic fluid volumes enclosed in the counter-acting cylinders (9a, 9b) and the pressure chambers directly connected thereto, particularly during short working strokes high efficiency and short cycle times are achieved, and during cutting and stamping operations low cutting impact energy is achieved.

IPC 8 full level

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