

Title (en)

DEVICE FOR CONTROLLING THE WORKING FEED SPEED OF THE WORK UNIT OF A PROCESSING MACHINE

Title (de)

EINRICHTUNG ZUR REGELUNG DER ARBEITS- VORSCHUBGESCHWINDIGKEIT DER ARBEITSEINHEIT EINER BEARBEITUNGSMASCHINE

Title (fr)

DISPOSITIF POUR LA REGULATION DE LA VITESSE D'AVANCE DE TRAVAIL DE L'UNITE DE TRAVAIL D'UNE MACHINE D'USINAGE

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Abstract (en)

[origin: DE19911789A1] The invention relates to a device for controlling the working feed speed of the work unit of a processing machine (1) which machines a workpiece (11) by material removal. The device comprises a double-acting hydraulic cylinder (17) serving as drive element for the work unit whose feed speed is controlled by a restriction of the hydraulic oil flow which in feed mode flows through a throttle passage (49) and out of a pressure chamber (36) of the hydraulic cylinder. Said throttle passage comprises an adjustment throttle (59) which on the input side is connected to the hydraulic cylinder, as well as a pressure balance (63) which is arranged between said adjustment throttle and the reservoir (42) of the pressure-supply unit (41) and functions as a control throttle. The pressure balance comprises a balance piston (63) which on one side, on a control surface (91) having a value A_w , is subjected to the input pressure p_L of the adjustment throttle (59) and can thus be displaced against the restoring force of a balance spring (86) with a view to reducing the flow section of the control throttle. The invention also provides for a control device (94, 96, 98) which as soon and for as long as the total pressure drop along the throttle passage (41) is lower than a defined threshold value p_{LS} mediates, monotonically to the change in said pressure difference, an equivalent decrease or increase in the restoring force acting on the balance piston (63).

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