

Title (en)
CUTTING AND SPLITTING MACHINE

Title (de)
SCHNEID- UND SPALTMASCHINE

Title (fr)
COUPEUSE-FENDEUSE

Publication
EP 4086051 A1 20221109 (EN)

Application
EP 22163229 A 20220321

Priority
SI 202100098 A 20210505

Abstract (en)
The invention relates to a cutting and splitting machine for cutting sawlogs and splitting same to chopped wood, comprising a chainsaw bar, a bi-directional hydraulic cylinder (1), the piston rod (1a) of which is connected to the chainsaw bar to perform the cutting and reciprocating stroke, a hydraulic motor (2) that drives the cutting chain of the chainsaw bar, a pump (3), a first hydraulic line (4) which hydraulically connects the pump (3) to the hydraulic motor (2) via a 4/2 way shut-off valve (7), a second hydraulic line (5) which hydraulically connects the first hydraulic line (4) on the inlet side of the hydraulic motor to the hydraulic cylinder on the piston rod (1a) side, a third hydraulic line (6) which hydraulically connects the first hydraulic line (4) on the outlet side of the 4/2 way shut-off valve (7) via a reducing valve (8) to the hydraulic cylinder on the piston (1b) side, where the parameters are selected so that the forces on the piston from both the piston rod side and the piston side are equalized when the pressure on the hydraulic motor reaches the selected maximum value. The parameters are: d is diameter of the hydraulic cylinder piston rod (1a), D is diameter of the hydraulic cylinder piston (1b), p_{HMmax} is maximum pressure of the hydraulic motor (2) selected in a way to be lower than the maximum peak pressure of the hydraulic motor, preferably lower than the maximum intermittent pressure declared by the hydraulic motor manufacturer, and p_D is working pressure set using a reducing valve (8). The advantage of the cutting and splitting machine according to the invention over known machines is that the chainsaw bar feed speed is adapted to the current cutting operating conditions.

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Citation (search report)
• [A] US 2014027019 A1 20140130 - KETONEN LAURI [FI]
• [A] US 4083291 A 19780411 - LARSSON LEIF
• [A] US 3848648 A 19741119 - DIKA M, et al

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