

Title (en)
HYDRAULIC CONTROL SYSTEM FOR A MACHINE, MACHINE AND METHOD FOR CONTROLLING BOOM AND ATTACHMENT MOVEMENTS OF A MACHINE

Title (de)
HYDRAULISCHES STEUERUNGSSYSTEM FÜR EINE MASCHINE, MASCHINE UND VERFAHREN ZUM STEUERN VON AUSLEGER- UND ANBAUTEILBEWEGUNGEN EINER MASCHINE

Title (fr)
SYSTÈME DE COMMANDE HYDRAULIQUE POUR UNE MACHINE, MACHINE ET PROCÉDÉ DE CONTRÔLE DE FLÈCHE ET DES MOUVEMENTS DE FIXATION D'UNE MACHINE

Publication
EP 4230809 A1 20230823 (EN)

Application
EP 22157274 A 20220217

Priority
EP 22157274 A 20220217

Abstract (en)
The invention relates to a hydraulic control system (24) for a machine (1), wherein the machine has a hydraulic pump (22), a tank (26), at least one boom hydraulic cylinder (12) and at least one attachment hydraulic cylinder (14), comprising an attachment directional control valve (30) configured to be connected to the hydraulic pump (22) and to piston and rod sides (17, 19) of the at least one attachment hydraulic cylinder (14); a lowering manifold (40) configured to be connected to piston and rod sides (16, 18) of the at least one boom hydraulic cylinder (12); a pressure sensor (48) configured to detect a pressure value of hydraulic fluid and configured to be connected to the piston side (16) of the at least one boom hydraulic cylinder; and a control device (36) configured to control the attachment directional control valve and the lowering manifold and configured to receive the pressure value; wherein, when the hydraulic control system (24) is connected to the hydraulic pump (22), the at least one boom hydraulic cylinder (12) and the at least one attachment hydraulic cylinder (14), the control device is configured, during a return movement state: to determine, based on the pressure value, a meter-out flow rate of the flow of hydraulic fluid from the piston side (16) of the boom hydraulic cylinder to the rod side (18) of the boom hydraulic cylinder, and to control the attachment directional control valve (30), such that hydraulic fluid from the hydraulic pump (22) is directed into the piston side (17) or the rod side (19) of the attachment hydraulic cylinder (14), wherein a position of a spool of the attachment directional control valve is controlled based on said meter-out flow rate.

IPC 8 full level
E02F 9/22 (2006.01)

CPC (source: EP)
E02F 3/3414 (2013.01); **E02F 3/432** (2013.01); **E02F 9/2203** (2013.01); **E02F 9/2228** (2013.01); **E02F 9/2235** (2013.01)

Citation (search report)

- [A] US 2007044465 A1 20070301 - ZHANG JIAO [US], et al
- [A] EP 1832685 A1 20070912 - CATERPILLAR MITSUBISHI LTD [JP]
- [A] EP 2933387 A1 20151021 - HYUN DAI HEAVY IND CO LTD [KR]
- [A] EP 2660481 A1 20131106 - VOLVO CONSTR EQUIP AB [SE]

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
EP 4230809 A1 20230823

DOCDB simple family (application)
EP 22157274 A 20220217