

Title (en)
CONTROL SYSTEM FOR AN ACTUATOR CYLINDER OF A CRANE

Title (de)
STEUERSYSTEM FÜR EINEN ANTRIEBSZYLINDER EINES KRANS

Title (fr)
SYSTÈME DE COMMANDE D'UN CYLINDRE D'ACTIONNEMENT D'UNE GRUE

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Application
EP 21155350 A 20210205

Priority

- IT 202000002506 A 20200210
- IT 202100000431 A 20210112

Abstract (en)

The present invention regards a control system (1000) for an actuator cylinder (10) having a first and a second chamber (11, 12), a piston (13) separating said first chamber (11) from said second chamber (12), said system (1000) comprising: a first supply conduit (20) of said first chamber (11) of said cylinder (10); a second supply conduit (21, 22) of said second chamber (12) of said cylinder (10); wherein said first supply conduit (20) and said second supply conduit (21, 22) are connectable to a distribution valve (100) configured to control a feed operation and a discharge operation of said first supply conduit (20) and said second supply conduit (21, 22); a first check system (30) positioned along said second supply conduit (21) and configured to open a passage for a fluid coming from said distribution valve (100) and directed towards said second chamber (12) if the pressure difference between the pressure of said fluid coming from said distribution valve (100) and the pressure in said second chamber (12) exceeds a first predetermined value, and wherein said first check system (30) is connected to said first supply conduit (20) by means of a first pilot conduit (201), wherein said first check system (30) is configured to open a passage for a fluid coming from said second chamber (12) and directed to said distribution valve (100) when the pressure in said first pilot conduit (201) at said first check system (30) reaches a first predetermined value; said second supply conduit (21) comprises a primary branch (21) along which said first check system (30) is positioned, and a secondary branch (22) parallel to said primary branch (21) and along which a second check system (40, 50) is positioned, wherein said second check system (40, 50) is configured to allow to open a passage for a fluid coming from said distribution valve (100) and directed towards said second chamber (12) along said secondary branch (22) if the pressure difference between the pressure of said fluid coming from said distribution valve (100) and the pressure in said second chamber (12) exceeds a second predetermined value, wherein said first and said second check systems (30, 40, 50) are dimensioned in such a way that a maximum fluid flow which can pass through said second check system (40, 50) is at least twice as large as a maximum fluid flow which can pass through said first check system (30).

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Citation (applicant)
IT 201800002172 A1 20190730 - BOSCH REXROTH OIL CONTROL S P A [IT]

Citation (search report)

- [X] US 2018066681 A1 20180308 - CORNETT NICHOLAS [US]
- [A] WO 2019210341 A1 20191107 - PALFINGER AG [AT]
- [A] EP 0867567 A2 19980930 - OYODO KOMATSU [JP]
- [A] EP 1387089 A2 20040204 - KOBELCO CONSTR MACHINERY LTD [JP]
- [AD] EP 3527833 A1 20190821 - BOSCH REXROTH OIL CONTROL S P A [IT]

Cited by
EP4148014A1; IT202100009539A1; IT202100023543A1

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