

Title (en)
HYDRAULIC LIFTING SYSTEM

Title (de)
HYDRAULISCHES HUBSYSTEM

Title (fr)
SYSTÈME DE LEVAGE HYDRAULIQUE

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Application
EP 19155238 A 20190204

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Abstract (en)
The invention relates to a hydraulic lifting system (1) comprising a hydraulic circuit (3), having a feed line (5) and a return line (7), to which circuit (3) a plurality of components are coupled, comprising: a lifting device (9), at least one hydraulic auxiliary device (11), at least a first pump (13), at least one electric motor (15) for operating the at least one pump (13), a tank (17) for holding hydraulic fluid, a first control valve (19), a second control valve (21), and a control unit, for operating the valves (19, 21) and the at least one electric motor (15). The first control valve (19) is arranged on the feed line (5), to control a flow of hydraulic fluid there through, which flow is provided to the feed line (5) by means of the pump (13), to be directed to the lifting device (9), which lifting device (9) performs a lifting operation when provided with hydraulic fluid. The second control valve (21) is arranged on the return line (7), to re-direct the flow of hydraulic fluid from the feed line (5) to the return line (7), which leads said hydraulic fluid to the tank (17), wherein the lifting device (9) performs a lowering operation when the hydraulic fluid is drained therefrom by means of the second control valve (21). The system (1) further comprises a hydraulic motor (27), arranged on the return line (7), between the second control valve (21) and the tank (17), wherein the hydraulic motor (27) when provided with hydraulic fluid from the return line (7) is arranged to generate mechanical energy to a rotatable axle (29). The invention further relates to a fork-lift truck (53) comprising such a hydraulic lifting system (1) and a method for providing such a hydraulic system (1) to a fork-lift truck (53).

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Citation (search report)
• [XY] JP 2007254057 A 20071004 - NIPPON YUSOKI CO LTD
• [X] JP 2010083672 A 20100415 - NIPPON YUSOKI CO LTD
• [I] DE 102015221713 A1 20170511 - BOSCH GMBH ROBERT [DE]
• [IY] EP 1852388 A1 20071107 - MITSUBISHI HEAVY IND LTD [JP], et al
• [I] US 2006070793 A1 20060406 - AKAO MICHIO [JP]

Cited by
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