

Title (en)

DEVICE FOR CHARGING PRESSURE ACCUMULATORS IN HYDRAULIC SYSTEMS WITH A HIGHLY COMPRESSED GAS

Publication

**EP 0024581 B1 19830330 (DE)**

Application

**EP 80104577 A 19800802**

Priority

DE 2934301 A 19790824

Abstract (en)

[origin: EP0024581A1] 1. Device for charging accumulators (8) with high-pressurized gas in hydraulic installations, comprising a hydraulically operated compression cylinder (1) having a flying piston (4) which divides the compression cylinder so as to form an oil volume and a gas volume, further comprising a high-pressure oil pump (3) connected to the compression cylinder via a high-pressure oil conduit (16) issuing from its oil-sided front wall, the gas-sided end of the compression cylinder being adapted to be connected to the accumulator to be filled and to at least one pressure vessel (11) for receiving prepressurized gas, namely bottle gas, the conduit (7) leading to the accumulator to be charged containing a check valve (12) sealing against the compression cylinder and the conduit (10) leading to the pressure vessel containing a check valve (13) sealing against the latter, characterized by the combination of the following features : a) the device is adapted to be dismantled into subassemblies portable by a single operating person, the compression cylinder (1) forming one such subassembly, its oil-sided front wall (14) being adapted to be attached to the high-pressure oil pump (3) by a flexible high-pressure oil conduit (16) secured at least at one of its two ends by means of a bayonet or threaded joint (15) and further being provided with handles (31, 32) whereas the high-pressure oil pump (3), an electric motor (3) driving it, an oil reservoir (19) and a control unit for the electric motor (2) are combined in another subassembly within a casing (20) adapted to be carried by a handle (33) ; b) the control unit for the electric motor (2) comprises : a pressure switch (22) attached to the high-pressure oil conduit (16) connecting the compression cylinder (1) and the high-pressure oil pump (3) within the casing (20) and adapted to energize the pump when the high-pressure oil conduit (16) is depressurized ; an electric switch non-positively attached to the pressure switch and connected in the leads (23) to the electric motor (2) ; further a time switch (24) connected in the leads (23) to the electric motor (2) and adapted to deenergize the pump after a predetermined period ; finally a safety valve (26) as well as a thermostat (temperature switch, 27) attached to a branch line (18) which issues from the high-pressure oil conduit (16) and leads to the oil reservoir (19) ; c) separately from each other, the flexible high-pressure gas conduit (7) for connection to the accumulator (8) to be charged and a plurality of smaller flexible gas conduits (10) for isolated connection to a plurality of gas bottles (11) are attached to the gas-sided front wall (5) of the compression cylinder (1), the check valve (12) sealing against the compression cylinder being arranged at the base of the high-pressure gas conduit (7) whereas the check valve (13) sealing against the gas bottles (11) is arranged at the base of each gas conduit (10) leading to a gas bottle (11).

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IPC 8 full level

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Cited by

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