

Title (en)

Method and apparatus for controlling the flow of cleaning liquid through a high-pressure cleaner

Title (de)

Verfahren und Vorrichtung zum Regeln der Strömung einer Reinigungsflüssigkeit durch einen Hochdruckreiniger

Title (fr)

Méthode et appareil pour la commande d'écoulement d'un liquide de nettoyage traversant un nettoyeur à haute pression

Publication

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Application

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Abstract (en)

In a method and an apparatus for controlling the flow of cleaning liquid in a high-pressure cleaner and of the kind comprising the formation of a primary flow path for the cleaning liquid to parts of the high-pressure cleaner comprising a) an inlet conduit (1) for cleaning liquid at a relatively low pressure (P1), a motor-pump unit (6, 2), the suction side of which is connected to the inlet conduit (1), and the pressure side (8) of which, in which there is a pressure (P2), is connected to the nozzle inlet part of an injector (9), the outlet of which is connected to a cleaning gun (11) having means (12) for varying the amount of cleaning liquid being ejected, and b) an automatic control unit (20) for controlling the cleaning liquid flowing through and comprising b1) a housing (17) with an internal cylindrical chamber, in which b2) a spring-loaded (28) piston (43) with end surfaces having differing effective surface areas is supported sealingly and slidingly and thus dividing the chamber into three part-chambers (23, 24, 25), of which the first (23) is connected to the suction inlet (37) of the injector (9) via a pressure-control conduit (15), in which there is a pressure (P3), and the second chamber (24) is connected to the pressure side (8) of the pump (2) via a pressure-control conduit (14), and the third chamber (25) is connected to the inlet conduit (1) via a pressure-control connection (13, 26), as well as b3) a switching rod (35) connected to the piston (43) and by the latter being movable towards and away from an operating member on a start/stop switch (16) inserted in the power supply circuit of the motor (6) so as to be able to make or break the supply circuit for the motor, whereas the method comprises the following steps c and d: c) during the operation of the high-pressure cleaner a resultant hydraulic force on the piston (43) is created so as to cause the latter to be in a position, in which it acts upon the switching rod (35) for connection and operation of the start/stop switch (16) for the motor-pump unit (6, 2), and d) by changing the adjustment means (12), a relatively large quantity of cleaning liquid per unit time is ejected at a relatively low pressure, so that a relatively low pressure (P3) is created across the suction inlet part (37) of the injector (9), the main new feature is e) that in order to exploit said relatively low pressure (P3) a secondary flow path for the cleaning liquid is established through parts of the high-pressure cleaner by additionally providing flow channels for cleaning liquid in the piston (43) so as to make it possible to supply additional cleaning liquid to the liquid flow of the primary flow path from the secondary flow path extending from the inlet conduit (1) via the pressure-control connection (13, 26), the chambers (25, 23) on each side of the piston (43) and the pressure-control conduit (15) to the injector (9) and the latter's suction inlet (37). The method and the apparatus according to the invention make it possible to achieve a control of the flow of the cleaning liquid being more variable and yet more reliable than has previously been possible. <IMAGE>

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Citation (search report)

- [A] DE 8814243 U1 19890112
- [A] EP 0263196 A1 19880413 - WAP REINIGUNGSSYSTEME [DE]

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