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Hydraulic system

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Système hydraulique

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Application
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Abstract (en)
[origin: WO2015185644A1] The invention relates to a hydraulic drive (1) comprising a working cylinder (2) and a travel cylinder (3) which is mechanically connected to the working cylinder (2). The working cylinder (2) and the travel cylinder (3) each comprise an upper and a lower cylinder chamber (21, 22, 31, 32), and all four cylinder chambers (21, 22, 31, 32) of the working and travel cylinder (2, 3) are connected to one another in a suitable manner in a closed pressure circuit (4) which is filled and prestressed with a hydraulic fluid (F). A rotational speed-variable hydraulic machine (5) with a first and second pressure connection (51, 52) is arranged in the pressure circuit (4) in order to conduct the hydraulic fluid (F) between the individual cylinder chambers (21, 22, 31, 32) of the working and travel cylinder (2, 3) during the operation (B) of the hydraulic drive (1). At least one first and second distributing valve (6, 7) are arranged in the pressure circuit (4) such that the respective valve switch positions (61, 62, 71, 72, 73) which are suitable for the different operating phases of the hydraulic drive (1) together with the suitably driven hydraulic machine (5) allow a common movement of the work and travel cylinder (2, 3) in one or the other piston movement direction (R1, R2). For this purpose, preferably only the first and the second distributing valve (6, 7) are arranged in the pressure circuit (4). The hydraulic drive (1) requires a minimum number of components, maintains a low installation complexity, improves the energy efficiency, can be constructed in a compact manner, and can be operated in a sufficiently variable manner.

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