

Title (en)

METHOD AND SYSTEM FOR DIAGNOSING AN ACCUMULATOR IN A HYDRAULIC CIRCUIT

Title (de)

VERFAHREN UND SYSTEM ZUR DIAGNOSE EINES AKKUMULATORS IN EINEM HYDRAULIKKREIS

Title (fr)

PROCÉDÉ ET SYSTÈME DE DIAGNOSTIC D'UN ACCUMULATEUR DANS UN CIRCUIT HYDRAULIQUE

Publication

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Application

EP 21727619 A 20210512

Priority

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Abstract (en)

[origin: WO2021251862A1] The present disclosure relates to a computer-implemented method and system for diagnosing the function of at least one accumulator in a hydraulic circuit in percussive rock drilling. The hydraulic circuit provides pressurised hydraulic fluid to power a percussion device (105) comprising a reciprocating percussion piston (115) for generating stress waves in a drill tool (106). The reciprocating motion of the percussion piston (115) and/or a damping piston (220) gives rise to pressure and flow variations in the hydraulic circuit, and the at least one accumulator is configured to reduce pressure and/or flow variations in the hydraulic circuit. The method comprises, during drilling, obtaining a plurality of pressure measurements over one or more time periods, wherein the plurality of pressure measurements are obtained at a frequency being at least twice a frequency of the reciprocation motion of the percussion piston (115) and/or the damping piston (220). The method further comprises determining a representation of pressure and/or flow variations in the hydraulic circuit caused by the reciprocating motion of the percussion piston (115) and/or damping piston (220) over the one or more time periods and diagnosing the function of the at least one accumulator based on the determined representation of the pressure and/or flow variations in the hydraulic circuit and a reference representation of pressure and/or flow variations in the hydraulic circuit.

IPC 8 full level

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Citation (search report)

See references of WO 2021251862A1

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