

Title (en)

COOLANT PUMP FOR AN INTERNAL COMBUSTION ENGINE

Title (de)

KÜHLMITTELPUMPE FÜR EINE VERBRENNUNGSKRAFTMASCHINE

Title (fr)

POMPE À LIQUIDE DE REFROIDISSEMENT POUR UN MOTEUR À COMBUSTION INTERNE

Publication

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Application

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Abstract (en)

[origin: WO2017076649A1] Coolant pumps for internal combustion engines are known, comprising a drive shaft (18), a coolant pump impeller (20) which is securely arranged on the drive shaft (18) at least in a rotationally fixed manner and via which coolant can be conveyed, an adjustable control slider (58) via which a flow cross-section of a ring gap (62) between the outlet (64) of the coolant pump impeller (20) and the surrounding conveying channel (12) can be controlled, a control pump (32) having a control pump impeller (22) which is arranged on the drive shaft (18) at least in a rotationally fixed manner, a flow channel (24) of the control pump (32) in which a pressure can be generated by rotating the control pump impeller (22), a pressure channel (92) via which an outlet (30) of the flow channel (24) can be fluidically connected to a first pressure chamber (80) of the control slider (58), which is formed on the axial side of the control slider (58) facing away from the coolant pump impeller (20), and a valve (84) via which a flow cross-section (90) of the pressure channel (92) can be closed and released. According to the invention, in order to be able to guarantee an emergency operation with maximum coolant supply of the coolant circuit, without the use of a return spring, the flow channel (24) is fluidically connected to a second pressure chamber (82) of the control slider (58) via a connection channel (94), which is formed on the axial side of the control slider (58) directed towards the coolant pump impeller (20).

IPC 8 full level

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