

Title (en)
CONTROLLABLE COOLANT PUMP

Title (de)
REGELBARE KÜHLMITTELPUMPE

Title (fr)
POMPE A REFRIGERANT REGLABLE

Publication
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Application
EP 06761838 A 20060811

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Abstract (en)
[origin: US2008317609A1] The invention relates to a controllable coolant pump for internal combustion engines which is driven by torque transmission elements. It is an object of the invention to develop a driven, controllable coolant pump of this type for internal combustion engines, which ensures further functioning of the coolant pump (failsafe) if the control means fails, is distinguished by a high degree of efficiency and a very compact, simple, robust design, and, even in the case of operating medium which is loaded with dirt, ensures high operational safety and reliability and makes active control of the coolant delivery amount possible, in order firstly to ensure optimum warming up of the engine by "zero leakage" and in order secondly, after warming up of the engine, to influence the engine temperature during continuous operation so exactly that both the emission of pollutants and the friction losses and fuel consumption can be reduced considerably over the entire operating range of the engine. According to the invention, this object is achieved by a controllable coolant pump having a pump housing (1), a driven shaft (2) which is mounted in the pump housing (1), an impeller wheel (3) which is arranged fixedly in terms of rotation on a free, flow-side end of the shaft (2), and a pressure-activated valve slide (4) having an outer cylinder (5) which covers the outflow region of the impeller wheel (3) in a variable manner, which controllable coolant pump is characterized in that the valve slide (4) is of annular configuration and is arranged on a plurality of piston rods (6) which are mounted displaceably in the pump housing (1), wherein an annular piston (12) which is mounted in an annular groove (10) in the pump housing (1) and can be moved in a defined manner in the annular groove (10) by means of excess pressure or vacuum is arranged on the piston rods (6) in a manner lying opposite the valve slide(4).

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