

Title (en)

IMPROVED CONTROL OF WATER CONSERVANCY OF A COOLING SECTION

Title (de)

VERBESSERTE STEUERUNG DER WASSERWIRTSCHAFT EINER KÜHLSTRECKE

Title (fr)

COMMANDE AMÉLIORÉE DE LA GESTION DE L'EAU D'UN CIRCUIT DE REFROIDISSEMENT

Publication

EP 3495056 B1 20200916 (DE)

Application

EP 17206426 A 20171211

Priority

EP 17206426 A 20171211

Abstract (en)

[origin: WO2019115145A1] In a cooling path, hot rolled material (3) composed of metal is cooled. The cooling path has a pump (7) which extracts coolant (2) from a coolant reservoir (8) and feeds said coolant via a line system (9) to a number of coolant outlets (4, 6) which are controlled by means of valves (10) positioned upstream of the coolant outlets (4, 6). A control device (11) of the cooling path determines activation states (Ci) for the valves (10) for a respective point in time taking into consideration coolant flows (Wi) which are intended to be discharged via the coolant outlets (4, 6) at the respective point in time, in conjunction with a working pressure (pA) of the coolant (2) prevailing at the inlet side of the valve (10). By adding the coolant flows (Wi), said control device determines a total coolant flow (WG). Taking into consideration the total coolant flow (WG), the working pressure (pA) of the coolant (2) and additionally a change (5WG) of the total coolant flow (WG), said control device determines a pump pressure (pP) that is intended to prevail at the outlet side of the pump (7) such that the working pressure (pA) is attained at the inlet side of the valves (10). Taking into consideration the total coolant flow (WG), the pump pressure (pP) and a suction pressure (pS) prevailing at the inlet side of the pump (7), said control device determines an activation state (CP) for the pump (7). Said control device activates the valves (10) and the pump (7) in accordance with the determined activation states (Ci, CP). The control device (11) performs said steps cyclically.

IPC 8 full level

B21B 37/74 (2006.01)

CPC (source: EP US)

B21B 37/74 (2013.01 - EP); **B21B 37/76** (2013.01 - US); **B21B 45/0218** (2013.01 - US); **C21D 1/00** (2013.01 - US); **C21D 1/60** (2013.01 - US); **C21D 1/667** (2013.01 - US); **C21D 9/52** (2013.01 - US); **C21D 9/573** (2013.01 - US); **C21D 11/00** (2013.01 - US); **B21B 37/76** (2013.01 - EP); **B21B 45/0218** (2013.01 - EP)

Cited by

DE102022208447A1; WO2024037827A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

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