Title (en)

THERMOHYDRAULIC METHOD FOR INCREASING THE PRESSURE OF DIVERSE WORKING FLUIDS AND APPLICATION THEREOF

Title (de)

THERMO-HYDRAULISCHES VERFAHREN ZUR DRUCKERHÖHUNG DIVERSER ARBEITSFLUIDS UND DEREN ANWENDUNG

Title (fr)

PROCÉDÉ THERMOHYDRAULIQUE POUR AUGMENTER LA PRESSION DE DIVERS FLUIDES DE TRAVAIL ET SON UTILISATION

Publication

EP 2209999 A1 20100728 (DE)

Application

EP 08839311 A 20081014

Priority

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Abstract (en)

[origin: CA2705856A1] The invention relates to a thermohydraulic pressure increase method and to the application thereof. Such a technical solution is required primarily in the field of energy management, in mechanical engineering, and in chemical plant engineering. In a hydraulic system, according to the prior art a hydraulic pump, which is driven by a motor disadvantageously requiring premiums forms of energy, such as electricity, diesel, or gasoline, is used to achieve the pressure increase. Some working fluids very drastically change the density thereof close to and above the critical point as the temperature rises, and transition into the gaseous state and under high pressure multiply the volume thereof if additional energy is supplied without density leaps at temperatures far below 100ºC. If the substance-specific system pressure and the system temperature can be adjusted to a hydraulic process, the waste heat can be used for volume change work. The aim is to achieve volume change work by way of waste heat in a thermal process and apply said work to a hydraulic process, for example, in order to then drive presses or generators in stationary industrial systems.

IPC 8 full level

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