

Title (en)
COMBUSTION ENGINE WITH A VAPOUR PUMP AS COMPRESSOR STAGE

Title (de)
VERBRENNUNGSKRAFTMASCHINE MIT EINER DAMPFSTRAHLPUMPE ALS VERDICHTERSTUFE

Title (fr)
MOTEUR A COMBUSTION INTERNE COMPORTANT UNE POMPE A JET DE VAPEUR SERVANT D'ETAGE DE COMPRESSION

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Abstract (en)
[origin: WO2006094324A2] The combustion engine comprises a burner (8), continuously operated under pressure or in a given embodiment a burner (13) operated at atmospheric pressure. In each case said burner (8/13) is provided with a subsequent exhaust turbine (38) itself subsequently provided with a recuperative heat exchanger (1), which transfers waste heat from the exhaust to all gaseous and liquid media flowing into the combustion engine to a physical maximum level. The pre-heated combustion air or exhaust gas is subsequently compressed by only the vapour pump (30) with no mechanical compressor stage. The above is achieved whereby the operating vapour is superheated by heat from the burner (8 or 13) in a vapour superheater (11 or 21) after being heated in the heat exchanger (2) and then, during the isentropic expansion in the Laval operating nozzle (22), is constantly refreshed and superheated by heat from the burner (8/13). In further embodiments of the invention, the above is suitable as replacement for conventional turbochargers and as engine for a motor vehicle with recuperative use (43) of braking energy.

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