

Title (en)
HIGH TEMPERATURE HEAT PUMP AND METHOD FOR THE CONTROL THEREOF

Title (de)
HOCHTEMPERATURWÄRMEPUMPE UND VERFAHREN ZU DEREN REGELUNG

Title (fr)
POMPE À CHALEUR HAUTE TEMPÉRATURE ET SON PROCÉDÉ DE RÉGLAGE

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Application
EP 09736109 A 20090828

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Abstract (en)
[origin: WO2010028622A1] The invention relates to a high-temperature heat pump for warming a fluid, preferably water, to a temperature level upto 150 °C, which is operated with carbon dioxide as a coolant in the transcritical range. Said heat pump comprises an evaporator (6), at least two inner heat exchangers (4, 5), a compressor (1), one or more serially connected gas coolers (2, 3), a coolant collector (7) and a coolant injection valve (8). In order to control the high pressure in the gas coolers (2, 3), the inlet of the coolant collector (7) is connected via a control valve (15) to the outlet of the serially connected gas cooler (2, 3) and the outlet of the coolant collector (7) is connected to the coolant injection valve (8). Very high pressure values can be attained by controlling the overheating of the coolant of the water pump, by means of the inflow of the coolant into the evaporator (6) and the high pressure in the gas coolers (2, 3) via the volume flow of the carbon dioxide from the gas coolers (2, 3) into the coolant collector (7).

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