

Title (en)

HEAT PUMP CASCADE AND METHOD FOR HEATING OR COOLING COOLANT BY USING HEAT PUMP CASCADE

Title (de)

WÄRMEPUMPENKASKADE UND VERFAHREN ZUR ERWÄRMUNG ODER ABKÜHLUNG EINES KÜHLMITTELS MITTELS EINER WÄRMEPUMPENKASKADE

Title (fr)

CASCADE DE POMPES À CHALEUR ET PROCÉDÉ DE CHAUFFAGE OU DE REFROIDISSEMENT D'UN RÉFRIGÉRANT AU MOYEN D'UNE CASCADE DE POMPES À CHALEUR

Publication

EP 4194773 B1 20240522 (DE)

Application

EP 22206893 A 20221111

Priority

DE 102021214258 A 20211213

Abstract (en)

[origin: US2023184468A1] In order to provide a cascade heat pump with which a large temperature lift can be provided with high efficiency, a cascade heat pump comprising n stages where $n \geq 2$ is proposed. Each of the n stages has a heat pump with a coolant inlet, a first coolant outlet, and a second coolant outlet. Each heat pump has a hot side and a cold side and a flow divider to divide a coolant flow entering the coolant inlet between the hot side and the cold side. The first coolant outlet of the heat pump of each stage i, where $i=1 \dots n-1$, is connected to the coolant inlet of the heat pump of a subsequent stage $i+1$. The second coolant outlet of the heat pump of at least one subsequent stage $i+1$ is connected by a recirculation line to the coolant inlet of the heat pump of a preceding stage.

IPC 8 full level

F25B 21/04 (2006.01); **F25B 25/00** (2006.01)

CPC (source: CN EP US)

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