

Title (en)

CLOSED- AND GAS CIRCULATION-TYPE FREEZING APPARATUS AND OPERATION METHOD THEREOF

Title (de)

GESCHLOSSENE GEFRIERVORRICHTUNG MIT GASZIRKULATION UND BETRIEBSVERFAHREN DAFÜR

Title (fr)

APPAREIL DE CONGELATION DU TYPE FERME ET A CIRCULATION DE GAZ ET SON PROCEDE DE FONCTIONNEMENT

Publication

**EP 2602572 A1 20130612 (EN)**

Application

**EP 12820846 A 20120823**

Priority

- JP 2011185284 A 20110826
- JP 2012071259 W 20120823

Abstract (en)

Provided is a closed-cycle air refrigeration system 10A in which high-temperature, high-pressure air refrigerant compressed by a compressor 22 is cooled by a water cooled heat exchanger 16 and a heat recovery heat exchanger 18, then expanded by an expander 26 to obtain very low-temperature and low-pressure air refrigerant. This low-temperature, low-pressure air refrigerant is supplied to a brine cooler 20. The system includes a sealed air refrigerant supply/discharge system 50 formed by an expansion tank 51, a compressor inlet-side connecting passage 52, and a compressor outlet-side connecting passage 54. A pressure sensor 62 detects a pressure of the air refrigerant in a compressor inlet-side air refrigerant passage 12a, and air refrigerant is supplied or discharged between the expansion tank 51, and the compressor inlet-side air refrigerant passage 12a or a compressor outlet-side air refrigerant passage 12b such that the air refrigerant pressure stays within a preset range.

IPC 8 full level

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CPC (source: EP)

**F25B 9/004** (2013.01)

Cited by

CN109751795A; CZ308332B6; CN103868266A; CN105352212A; DE102020213544B4; DE102020213822B4; DE102020213554B4; US11988426B2; US11994323B2

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