Title (en)

COOLING SYSTEM

Title (de)

KÜHLSYSTEM

Title (fr)

SYSTÈME DE REFROIDISSEMENT

Publication

EP 3059524 A4 20170823 (EN)

Application

EP 14850262 A 20140305

Priority

- KR 20130008094 U 20131001
- KR 2014001820 W 20140305

Abstract (en)

[origin: EP3059524A1] According to the present invention, According to the present invention, a cooling system is provided which comprises: a compressor for compressing refrigerant; a condenser for condensing the refrigerant which is compressed by said compressor; an expansion valve for expanding the refrigerant which is condensed by said condenser; an evaporator for evaporating the refrigerant which is expanded by said expansion valve; a suction pressure-regulating valve which is installed to a refrigerant inflow tube connecting between said compressor and said evaporator and which allows the refrigerant supplied from said evaporator to said compressor to have a pressure lower than a predetermined pressure for preventing said compressor from being overloaded, wherein said suction pressure-regulating valve is set to supply the amount of the refrigerant which is less than amount of refrigerant corresponding to compression capacity of said compressor; and, an unloading part being installed to said refrigerant inflow tube in parallel with said suction pressure-regulating valve and including a bypass tube for an unloaded operation and an opening/closing-valve for said bypass tube, wherein said bypass tube has a supply amount of the refrigerant, which is equivalent to a difference between the supply amount of the refrigerant corresponding to the compression capacity of said compressor and the supply amount of the refrigerant through said suction pressure regulating valve, wherein said unloading part makes it possible to attain the unloaded operation by closing said bypass tube by means of said opening/closing-valve, to thereby supply the refrigerant to said compressor only through said suction pressure regulating valve upon an initial startup or a re-startup of said compressor, so that the amount of the refrigerant flowing through said suction pressure regulating valve is less than the amount of the refrigerant corresponding to the compression capacity of said compressor and, wherein said unloading part makes it possible to attain a normal operation by opening said bypass tube by means of said opening/closing-valve, to thereby supply the refrigerant to said compressor through said suction pressure regulating valve and said bypass tube while in a normal operation of said compressor after a certain period from the initial startup, so that the amount of the refrigerant in the normal operation is equivalent to the amount of the refrigerant corresponding to the compression capacity of said compressor.

IPC 8 full level

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CPC (source: EP KR US)

F25B 41/22 (2021.01 - EP KR US); **F25B 49/022** (2013.01 - KR); F25B 2600/026 (2013.01 - EP); F25B 2600/0261 (2013.01 - EP); F25B 2600/0272 (2013.01 - KR); F25B 2600/2501 (2013.01 - KR); F25B 2700/1933 (2013.01 - KR)

Citation (search report)

- [X] JP H0722366 U 19950421
- [X] JP H0415478 A 19920120 - TAKAHASHI KOUGIYOU KK
- [A] JP H11248261 A 19990914 - TABAI ESPEC CORP
- [A] KR 200467801 Y1 20130704
- See references of WO 2015050297A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 3059524 A1 20160824; **EP 3059524 A4 20170823**; **EP 3059524 B1 20210113**; CN 105593618 A 20160518; CN 105593618 B 20171010; ES 2861873 T3 20211006; KR 200471061 Y1 20140211; WO 2015050297 A1 20150409

DOCDB simple family (application)

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