

Title (en)
COMPRESSION DEVICE AND METHOD AND REFRIGERATION MACHINE

Title (de)
KOMPRESSIONSVORRICHTUNG UND -VERFAHREN UND KÄLTEMASCHINE

Title (fr)
DISPOSITIF ET PROCÉDÉ DE COMPRESSION ET MACHINE DE RÉFRIGÉRATION

Publication
EP 3698048 A1 20200826 (FR)

Application
EP 18765154 A 20180801

Priority
• FR 1701076 A 20171016
• FR 2018051975 W 20180801

Abstract (en)
[origin: KR20190042463A] A centrifugal compression device for a working gas comprises: a plurality of centrifugal compressors (1, 3) forming a plurality of compression stages; and a plurality of drive motors (5, 6) for driving the compressors (1, 3). The device includes a gas circuit having a first pipe (16) for supplying gas to be compressed into the first compressor (1), the circuit includes a second pipe (14) for discharging the gas compressed in the first compressor, the second pipe (14) is connected to an inlet of a second compressor (3) to carry out a second compression, the circuit includes a third cooling pipe (10) for transferring a fraction of the gas compressed in the compressor (1) into the at least one first motor (6) to limit heating thereof, and the circuit includes a fourth pipe (12) for recovering the gas that has circulated in the first motor (6) and a downstream end connected to an inlet of a second motor (5) for transferring the gas thereto to limit the heating of the second motor (5). The present invention has a simple and cheap structure, and can efficiently cool a plurality of the motors of the compression device.

IPC 8 full level
F04D 17/12 (2006.01); **F04D 25/06** (2006.01); **F04D 29/58** (2006.01)

CPC (source: EP KR US)
F04D 17/12 (2013.01 - EP KR US); **F04D 25/0606** (2013.01 - EP KR); **F04D 25/16** (2013.01 - US); **F04D 29/5806** (2013.01 - EP KR US); **F25B 1/10** (2013.01 - KR US); **F25B 31/006** (2013.01 - KR US); **F25B 41/20** (2021.01 - KR); **F25B 41/40** (2021.01 - KR)

Citation (search report)
See references of WO 2019077212A1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
FR 3072428 A1 20190419; **FR 3072428 B1 20191011**; AU 2018350938 A1 20200521; AU 2018350938 B2 20231207; CA 3079027 A1 20190425; CN 111212981 A 20200529; CN 111212981 B 20221101; DK 3698048 T3 20220110; EP 3698048 A1 20200826; EP 3698048 B1 20211020; ES 2903562 T3 20220404; JP 2020537075 A 20201217; JP 7234225 B2 20230307; KR 102503137 B1 20230222; KR 20190042463 A 20190424; US 11384768 B2 20220712; US 2020240437 A1 20200730; WO 2019077212 A1 20190425

DOCDB simple family (application)
FR 1701076 A 20171016; AU 2018350938 A 20180801; CA 3079027 A 20180801; CN 201880066234 A 20180801; DK 18765154 T 20180801; EP 18765154 A 20180801; ES 18765154 T 20180801; FR 2018051975 W 20180801; JP 2020520463 A 20180801; KR 20180122268 A 20181015; US 201816756822 A 20180801