

Title (en)
COMPRESSION REFRIGERATION MACHINE HAVING A SPINDLE COMPRESSOR

Title (de)
KOMPRESSIONSKÄLTEMASCHINE MIT SPINDELVERDICHTER

Title (fr)
MACHINE FRIGORIFIQUE À COMPRESSION MUNIE D'UN COMPRESSEUR À VIS

Publication
EP 3152441 A1 20170412 (DE)

Application
EP 15727635 A 20150603

Priority
• DE 102014008288 A 20140603
• EP 2015062376 W 20150603

Abstract (en)
[origin: CA2951067A1] The invention relates to a spindle compressors without operating fluid in the working chamber, comprising a 2-tooth spindle rotor (2) and a 3-tooth spindle rotor (3) in a surrounding compressor housing (8) and having preferably non-parallel axes of rotation of the two spindle rotors, in particular for use in compression refrigeration machines. According to the invention, in order to improve the efficiency while providing flexible power adaptation, a multi-stage spindle compressor (1) whose compressor housing (8) and whose spindle rotors (2 and 3) are cooled by means of a partial-flow branch-off (25) of liquid refrigerant (39) from the main refrigerant circuit (24) is used as a refrigerant compressor, wherein the compressor housing (8) is cooled in a controlled manner by means of refrigerant evaporation (9), the refrigerant vapor subsequently being fed to the inlet (10), and, for power adaptation, there are, in addition to the inlet feed (11), also post-inlet feeds (12) into the working space and there are, in addition to the outlet discharge (14) from the outlet chamber (13), also pre-outlet discharges (15), each having a separate control element.

IPC 8 full level
F04C 29/04 (2006.01); **F04C 18/56** (2006.01)

CPC (source: CN EP KR US)
F04C 18/54 (2013.01 - US); **F04C 18/565** (2013.01 - CN EP KR US); **F04C 28/08** (2013.01 - US); **F04C 29/04** (2013.01 - CN EP KR US); **F04C 2270/19** (2013.01 - CN EP KR US)

Citation (search report)
See references of WO 2015185624A1

Citation (examination)
• WO 2011023513 A2 20110303 - STEFFENS RALF [DE]
• WO 2013167605 A2 20131114 - STEFFENS RALF [DE]

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)
DE 102014008288 A1 20151203; AU 2015270514 A1 20161222; AU 2015270514 B2 20180802; CA 2951067 A1 20151210; CN 106536935 A 20170322; CN 106536935 B 20200707; EP 3152441 A1 20170412; JP 2017518463 A 20170706; KR 20170013345 A 20170206; US 10337515 B2 20190702; US 2017089342 A1 20170330; WO 2015185624 A1 20151210

DOCDB simple family (application)
DE 102014008288 A 20140603; AU 2015270514 A 20150603; CA 2951067 A 20150603; CN 201580029820 A 20150603; EP 15727635 A 20150603; EP 2015062376 W 20150603; JP 2017516193 A 20150603; KR 20167036868 A 20150603; US 201515316010 A 20150603