

Title (en)
VOLUME RATIO FOR A R718* COMPRESSOR

Title (de)
VOLUMENVERHÄLTNIS BEI EINEM R718*-VERDICHTER

Title (fr)
RAPPORT VOLUMIQUE POUR COMPRESSEUR R718*

Publication
EP 4093973 A1 20221130 (DE)

Application
EP 21701305 A 20210120

Priority
• DE 102020000350 A 20200121
• EP 2021051215 W 20210120

Abstract (en)
[origin: WO2021148475A1] The invention relates to the compression of steam in the form of R718 with or without the addition of additives in the form of an aqueous solution in rotational displacement machines, in particular for refrigeration, air-conditioning, and heat pump technology. The aim of the invention is to prevent overcompression or undercompression, which impairs efficiency, as much as possible during operation by adapting the effective internal volume ratio, the so-called iV value, in the displacement machine as simply as possible. According to the invention, this is achieved in that for a rotor profile length LR, the compressor housing (1) has planar, i.e. flat, iV discs (3j) over a length LiV starting from the outlet side (1.2), having the index j for $1 \leq j \leq n$, where n is the number of said iV discs (3j), wherein $n \geq 1$, with a width bj for each iV disc (3j) and comprising planar surfaces PF preferably perpendicular to the neutral axis AN, each said iV disc (3j) being moved in a controlled manner by a respective distance si, where $0 < si \leq sj$, individually via respective movement controllers (5j) for each iV disc (3j) for the respective operating condition.

IPC 8 full level
F04C 18/16 (2006.01); **F04C 18/56** (2006.01); **F04C 28/10** (2006.01)

CPC (source: EP US)
F04C 18/16 (2013.01 - EP US); **F04C 18/565** (2013.01 - EP US); **F04C 28/10** (2013.01 - EP US); **F04C 2210/1094** (2013.01 - EP US); **F04C 2210/26** (2013.01 - EP US); **F04C 2250/201** (2013.01 - EP US)

Citation (search report)
See references of WO 2021148475A1

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

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
DE 102020000350 A1 20210722; AU 2021210565 A1 20220818; AU 2021210565 B2 20240523; CN 115003914 A 20220902; EP 4093973 A1 20221130; JP 2023511198 A 20230316; US 12012961 B2 20240618; US 2023167823 A1 20230601; WO 2021148475 A1 20210729

DOCDB simple family (application)
DE 102020000350 A 20200121; AU 2021210565 A 20210120; CN 202180010278 A 20210120; EP 2021051215 W 20210120; EP 21701305 A 20210120; JP 2022544696 A 20210120; US 202117794062 A 20210120