

Title (en)
STEPPED SCROLL COMPRESSOR AND DESIGN METHOD THEREFOR

Title (de)
GESTUFTER SCROLLVERDICHTER UND ENTWURFSVERFAHREN DAFÜR

Title (fr)
COMPRESSEUR À SPIRALE ÉTAGÉ ET SON PROCÉDÉ DE CONCEPTION

Publication
EP 3441614 A1 20190213 (EN)

Application
EP 17827398 A 20170626

Priority
• JP 2016140551 A 20160715
• JP 2017023425 W 20170626

Abstract (en)
In order to prevent damage to lap walls in a stepped scroll compressor, and to increase durability and reliability, a tooth-base step part (BS), the height of which increases from the outer circumferential side toward the inner circumferential side in the spiral direction of a spiral lap wall (18, 22), is provided on one side surface of an end plate (17, 21) of a fixed scroll (16) and/or a rotating scroll (20). A tooth-tip step part (TS), which becomes lower from the outer circumferential side to the inner circumferential side in the spiral direction, is provided in the spiral lap wall (18, 22) of the corresponding other scroll (16, 20). Among these spiral lap walls (18, 22), only the ventral surface of the spiral lap wall (18, 22) that is adjacent to the tooth-base surface (17a, 21a) closer to the outer circumferential side in the spiral direction than the tooth-base step part (BS) and is in a range overlapping at least the corresponding spiral lap wall (18, 22) is recessed more toward the inside than the original side-surface profile thereof.

IPC 8 full level
F04C 18/02 (2006.01)

CPC (source: EP)
F04C 18/0246 (2013.01); **F04C 18/0253** (2013.01); **F04C 18/0269** (2013.01); **F04C 18/0276** (2013.01); **F04C 28/28** (2013.01)

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)
EP 3441614 A1 20190213; **EP 3441614 A4 20190605**; CN 109072912 A 20181221; CN 109072912 B 20210507; JP 2018009553 A 20180118; JP 6758969 B2 20200923; WO 2018012268 A1 20180118

DOCDB simple family (application)
EP 17827398 A 20170626; CN 201780026502 A 20170626; JP 2016140551 A 20160715; JP 2017023425 W 20170626