

Title (en)
RECIRCULATION STAGE

Title (de)
RÜCKFÜHRSTUFE

Title (fr)
ÉTAGE DE RETOUR

Publication
EP 3194792 A1 20170726 (DE)

Application
EP 15797326 A 20151119

Priority
• DE 102014223833 A 20141121
• EP 2015077052 W 20151119

Abstract (en)
[origin: WO2016079222A1] The invention relates to a recirculation stage (RF) of a radial turbo compressor (RTC) comprising, in the flow direction (FD) of a process fluid (PF), the following sections (SE): a) an annular space (RR), b) a radial turn (RT), c) a recirculation channel (RC), wherein the sections (SE) are formed such that they each extend in annular fashion about an axis of rotation (X) of the radial turbo compressor (RTC), wherein the radial turn (RT) is formed by an outer contour (OC) and an inner contour (IC), wherein for each meridional section a midline (ML) between the outer contour (OC) and the inner contour (IC) is defined as the location of the center points of the circles to which the two contours are tangential. In order to minimize flow losses, it is proposed that in the meridional section the recirculation stage (RS) in the radial turn (RT) has, over at least the first 150° of the turn, a widening of the meridional width of the cross-sectional area (CSS) which extends perpendicular to the midline (ML) and is flowed through in the flow direction (FD), wherein the midline (ML) has a radius of curvature (BRML) which decreases in the flow direction (FD).

IPC 8 full level
F04D 29/44 (2006.01); **F04D 17/12** (2006.01)

CPC (source: EP)
F04D 17/122 (2013.01); **F04D 29/441** (2013.01); **F01D 9/045** (2013.01); **F05D 2250/70** (2013.01); **F05D 2250/71** (2013.01)

Citation (search report)
See references of WO 2016079222A1

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 102014223833 A1 20160525; EP 3194792 A1 20170726; EP 3194792 B1 20180926; WO 2016079222 A1 20160526

DOCDB simple family (application)
DE 102014223833 A 20141121; EP 15797326 A 20151119; EP 2015077052 W 20151119