

Title (en)
BACKFEED STAGE AND RADIAL TURBO FLUID ENERGY MACHINE

Title (de)
RÜCKFÜHRSTUFE UND RADIALTURBOFLUIDENERGIEMASCHINE

Title (fr)
ÉTAGE DE RETOUR ET TURBOMACHINE À ÉNERGIE FLUIDIQUE RADIALE

Publication
EP 3568597 A1 20191120 (DE)

Application
EP 18707245 A 20180206

Priority
• EP 17161002 A 20170315
• EP 2018052852 W 20180206

Abstract (en)
[origin: WO2018166716A1] The invention relates to a backfeed stage (BFS) of a radial turbo fluid energy machine (RTFEM), in particular of a radial turbo compressor (RTC), for deflecting a flow direction (FD) of a process fluid (PF) flowing out of an impeller (IMP) rotating about an axis (X) from radially outward to radially inward, comprising a backfeed channel (BFC) extending annularly about the axis (X) and having four sections (S1, S2, S3, S4) adjacent in the flow direction through which the process fluid (PF) can flow, wherein: a first section (S1) is designed to conduct the process fluid (PF) radially outward; a second section (S2) is designed to deflect the process fluid (PF) from radially outward to radially inward; a third section (S3) is designed to conduct the process fluid (PF) radially inward; a fourth section (S4) is designed to redirect the process fluid (PF) in the axial direction; the third section (S3) has first guide vanes (L1) which define flow channels (FC) of the backfeed channel (BFC) in relation to each other in the circumferential direction; the backfeed stage (BFS) has second guide vanes (L2) downstream of the first guide vanes (L1) which define the flow channels (FC) of the backfeed channel (BFC) in relation to each other in the circumferential direction. According to the invention, the first guide vanes (L1) are arranged only in the third section (S3), the second guide vanes (L2) being arranged only in the third section (S4).

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

CPC (source: EP US)
F04D 17/122 (2013.01 - EP US); **F04D 29/284** (2013.01 - US); **F04D 29/4213** (2013.01 - US); **F04D 29/444** (2013.01 - EP US)

Citation (search report)
See references of WO 2018166716A1

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

DOCDB simple family (publication)
EP 3376041 A1 20180919; CN 110418896 A 20191105; CN 110418896 B 20201030; EP 3568597 A1 20191120; EP 3568597 B1 20200916; US 10989202 B2 20210427; US 2020025205 A1 20200123; WO 2018166716 A1 20180920

DOCDB simple family (application)
EP 17161002 A 20170315; CN 201880018548 A 20180206; EP 18707245 A 20180206; EP 2018052852 W 20180206; US 201816488876 A 20180206