

Title (en)
CONTINUOUS FLOW MACHINE HAVING BLADED DIFFUSER

Title (de)
STRÖMUNGSMASCHINE MIT BESCHAUFELTEM DIFFUSOR

Title (fr)
TURBOMACHINE À DIFFUSEUR À AUBES

Publication
EP 3408503 A1 20181205 (DE)

Application
EP 16828750 A 20161229

Priority
• DE 102016201256 A 20160128
• EP 2016082817 W 20161229

Abstract (en)
[origin: WO2017129342A1] The invention relates to a continuous flow machine (2) having a rotor (4) that is mounted such that it can rotate about a rotational axis (6), and a diffuser (24) having a plurality of diffuser blades (28). So that the continuous flow machine (2) can be cost-effectively operated, according to the invention, at least one of the diffuser blades (28) is arranged at a first distance (32) to the rotational axis (6) and at last another of the diffuser blades (28) is arranged at a second distance (34) to the rotational axis (6). Advantageously, the low-solidity diffuser (24) has an even total number of diffuser blades (28), wherein half of the diffuser blades (28) are arranged at a first distance (32) and the second half of the diffuser blades (28) are arranged at a second distance (34) in relation to the rotational axis (6). The diffuser-dependent excitation of rotor vibrations and the excitation amplitude thereof is reduced using the assembly according to the invention, substantially reducing the risk of excitations harmonic with the rotational speed. The risk of rotor damage is also reduced.

IPC 8 full level
F01D 9/04 (2006.01); **F04D 29/44** (2006.01)

CPC (source: EP)
F01D 9/045 (2013.01); **F04D 29/444** (2013.01); **F05D 2260/961** (2013.01)

Citation (search report)
See references of WO 2017129342A1

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 102016201256 A1 20170803; EP 3408503 A1 20181205; EP 3408503 B1 20210407; WO 2017129342 A1 20170803

DOCDB simple family (application)
DE 102016201256 A 20160128; EP 16828750 A 20161229; EP 2016082817 W 20161229