

Title (en)
LOW TURBULENCE CENTRIFUGAL PUMP IMPELLER WHEREIN THE DOWNSTREAM PART OF THE BLADES EXTENDS CIRCUMFERENTIALLY

Title (de)
TURBULENZARMES RADIALPUMPE-FLÜGELRAD WOBEI SICH DAS STROMABWÄRTIGE ENDE DER SCHAUFELN IN UMFANGSRICHTUNG ERSTRECKT

Title (fr)
ROUET DE POMPE CENTRIFUGE À FAIBLE TURBULENCE DANS LEQUEL LA PARTIE AVAL DES AUBES S'ÉTEND CIRCONFÉRENTIELLEMENT

Publication
EP 2949943 A1 20151202 (EN)

Application
EP 15168591 A 20150521

Priority
TW 103118262 A 20140526

Abstract (en)
A low-turbulence impeller for a fluid pump comprises a first base wall (2), a second base wall (3), multiple guiding blades (4), multiple back-up plates (5), and multiple runners (6). The second base wall (3) has an inlet (33) formed through the second base wall (3). Each runner (6) is formed between two adjacent guiding blades (4). Each runner (6) has an outlet (60) formed between two adjacent back-up plates (5), a laminar zone (61) communicating with a corresponding outlet (60) and a turbulent zone (62) aligning with the corresponding back-up plate (5). The fluid can only be flowed out of the outlet (60) from the laminar zone (61), such that the fluid through the outlet (60) of each runner (6) is in low-turbulence condition. The cavitation corrosion is greatly reduced. The rotational velocity is enhanced to promote the fluid-draining efficiency.

IPC 8 full level
F04D 29/22 (2006.01); **F04D 29/24** (2006.01); **F04D 29/66** (2006.01)

CPC (source: EP US)
F01D 5/141 (2013.01 - US); **F04D 29/2272** (2013.01 - EP US); **F04D 29/242** (2013.01 - EP US); **F04D 29/669** (2013.01 - EP US); **F05D 2240/304** (2013.01 - EP US)

Citation (search report)

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- [XY] GB 954369 A 19640408 - ECK BRUNO [DE]
- [Y] US 1030561 A 19120625 - BLACKMER ERNEST E [US], et al
- [I] US 3751179 A 19730807 - WASSMANN W

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CN110094358A; RU2757242C1

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

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DOCDB simple family (application)
DE 202015102491 U 20150513; EP 15168591 A 20150521; JP 2015002525 U 20150522; TW 103118262 A 20140526; US 201514710681 A 20150513