

Title (en)
CENTRIFUGAL PUMP FOR CONVEYING A FLUID

Title (de)
ZENTRIFUGALPUMPE ZUM FÖRDERN EINES FLUIDS

Title (fr)
POMPE CENTRIFUGE POUR TRANSPORTER UN FLUIDE

Publication
EP 3896288 A1 20211020 (EN)

Application
EP 21159213 A 20210225

Priority
EP 20169858 A 20200416

Abstract (en)
A centrifugal pump for conveying a fluid is proposed, comprising a pump housing (2) with an inlet (3) at a suction side (S) and an outlet (4) at a discharge side (D), at least one impeller (5, 51) for conveying the fluid from the inlet (3) to the outlet (4), a shaft (6) for rotating the impeller (5, 51) about an axial direction (A), a first sealing device (91) for sealing the shaft (6) at the suction side (S), a second sealing device (92) for sealing the shaft (6) at the discharge side (D), a balance drum (7) fixedly connected to the shaft (6) and arranged between the at least one impeller (5, 51) and the second sealing device (92), wherein the balance drum (7) defines a front side (71) facing the at least one impeller (5, 51) and a back side (72) facing the second sealing device (92), wherein a relief passage (73) is provided between the balance drum (7) and a stationary part (21) configured to be stationary with respect to the pump housing (2), wherein the relief passage (73) extends from the front side (71) to the back side (72), wherein a balance line (10) is provided connecting the back side (72) with the suction side (S), wherein a discharge opening (70) is arranged at the relief passage (73) between the front side (71) and the back side (72), and wherein a connecting line (40) is provided for connecting the discharge opening (70) with the first sealing device (91).

IPC 8 full level
F04D 29/041 (2006.01); **F04D 29/10** (2006.01)

CPC (source: CN EP US)
F04D 1/06 (2013.01 - CN US); **F04D 15/00** (2013.01 - CN); **F04D 15/0005** (2013.01 - CN); **F04D 15/0022** (2013.01 - US); **F04D 29/0416** (2013.01 - EP US); **F04D 29/043** (2013.01 - US); **F04D 29/102** (2013.01 - EP); **F04D 29/106** (2013.01 - CN US); **F04D 29/22** (2013.01 - US); **F04D 29/426** (2013.01 - CN); **F04D 29/669** (2013.01 - CN); **F04D 29/708** (2013.01 - CN)

Citation (search report)
• [A] EP 3121450 A1 20170125 - SULZER MANAGEMENT AG [CH]
• [A] DE 1528717 A1 19691030 - HALBERGERHUETTE GMBH
• [A] EP 0224764 A1 19870610 - SULZER AG [CH]

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 3896288 A1 20211020; CN 113530835 A 20211022; US 2021324862 A1 20211021

DOCDB simple family (application)
EP 21159213 A 20210225; CN 202110354013 A 20210401; US 202117202607 A 20210316