

Title (en)

DIAGONAL FAN HAVING SWIRL REDUCTION AT THE DIAGONAL IMPELLER

Title (de)

DIAGONALVENTILATOR MIT DRALLREDUZIERUNG AM DIAGONALLAUFRAD

Title (fr)

VENTILATEUR DIAGONAL PRÉSENTANT UNE RÉDUCTION DE ROTATION AU NIVEAU DU ROTOR DIAGONAL

Publication

**EP 3880966 A1 20210922 (DE)**

Application

**EP 19786299 A 20191007**

Priority

- DE 102018128813 A 20181116
- EP 2019077103 W 20191007

Abstract (en)

[origin: CN209704875U] The utility model relates to a diagonal fan. The centrifugal fan comprises a motor, a shell and a diagonal impeller which is accommodated in the shell and can be driven by the motor, diagonal flow generated during operation of the diagonal impeller is deflected to the axial flow direction; the diagonal impeller is provided with impeller blades distributed in the circumferential direction and a centrifugal ring. The centrifugal ring surrounds the impeller blades in the circumferential direction. The diagonal fan is further provided with an air inlet nozzle on the air suction side. Main flow of the diagonal fan is sucked through the air inlet nozzle. The intake nozzle extends at least in sections over the centrifugal ring when viewed in a radial cross-section and forms a nozzle gap with the centrifugal ring. Furthermore, a bypass channel is formed in the housing, said bypass channel forming a fluid connection between the surrounding area of the discharge side of the diagonal fan and the inflow side of the nozzle gap such that, during operation of the diagonal fan, a swirl-free bypass flow is guided to the inflow side of the nozzle gap via the bypass channel. The diagonal fan is improved in terms of efficiency and throwing distance, and thus can be used in a wider range of applications.

IPC 8 full level

**F04D 17/06** (2006.01); **F04D 25/06** (2006.01); **F04D 27/00** (2006.01); **F04D 29/32** (2006.01); **F04D 29/42** (2006.01)

CPC (source: EP US)

**F04D 17/06** (2013.01 - EP); **F04D 19/002** (2013.01 - EP US); **F04D 25/06** (2013.01 - US); **F04D 29/164** (2013.01 - EP); **F04D 29/326** (2013.01 - EP); **F04D 29/522** (2013.01 - EP); **F04D 25/06** (2013.01 - EP)

Citation (search report)

See references of WO 2020099027A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**DE 102018128813 A1 20200520**; CN 209704875 U 20191129; EP 3880966 A1 20210922; US 11692553 B2 20230704; US 2022025892 A1 20220127; WO 2020099027 A1 20200522

DOCDB simple family (application)

**DE 102018128813 A 20181116**; CN 201920191641 U 20190212; EP 19786299 A 20191007; EP 2019077103 W 20191007; US 201917281688 A 20191007