Title (en)

Centrifugal pump, and use thereof

Title (de)

Zentrifugalpumpe und deren Anwendung

Title (fr)

Pompe centrifuge et son application

Publication

EP 1903216 B1 20091028 (EN)

Application

EP 06120843 A 20060918

Priority

EP 06120843 A 20060918

Abstract (en)

[origin: EP1903216A1] A centrifugal pump, in particular for the pumping of a mixture of substances possibly including stones and/or pebbles, comprises a volute pump housing which is provided with an axial inlet and a spout-shaped outlet attached tangentially to the circumferential wall of the pump housing. A rotor is attached in the pump housing such that it may rotate about an axial rotation axis. The rotor is provided with a central boss, a shaft shield fastened to the boss, a suction shield attached so as to be axially set apart from the shaft shield. The suction shield has an axial supply aligned with the axial inlet of the pump housing. The rotor comprises a plurality of rotor blades which arc fastened between the shields and each extend substantially transversely to the centre line of rotation between a radial outer end and a radial inner end. The rotor has an outermost diameter D w , whereas the shields define a width B w of the rotor extending between the mutually facing surfaces of the shaft shield and the suction shield. The axial supply of the rotor has a suction diameter D z , and the rotor blades define a spherical diameter Bol corresponding to the diameter of the largest sphere which may be introduced between the rotor blades. The ratio between the spherical diameter Bol and the suction diameter D z is greater than 0.43. The ratio between the width B w of the rotor and the suction diameter D z is greater than 0.43. The ratio between the external diameter D w of the rotor and the suction diameter D z is between 2.3 and 2.5. These values provide a centrifugal pump having a special hydraulic design.

IPC 8 full level

F04D 7/04 (2006.01); **F04D 29/22** (2006.01)

CPC (source: EP)

F04D 7/04 (2013.01); **F04D 7/045** (2013.01); **F04D 29/2216** (2013.01)

Cited by

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DOCDB simple family (publication)

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DOCDB simple family (application)

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