

Title (en)
Centrifugal pump, and use thereof

Title (de)
Zentrifugalpumpe und deren Anwendung

Title (fr)
Pompe centrifuge et son application

Publication
EP 1903216 A1 20080326 (EN)

Application
EP 06120843 A 20060918

Priority
EP 06120843 A 20060918

Abstract (en)
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 are 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 B_{ol} corresponding to the diameter of the largest sphere which may be introduced between the rotor blades. The ratio between the spherical diameter B_{ol} 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.

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CPC (source: EP)
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Citation (applicant)
US 2005045757 A1 20050303 - DOERING BRANDON R [US], et al

Citation (search report)
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