

Title (en)
REVERSIBLE CENTRIFUGAL PUMP WITH IDENTICAL HYDRAULIC PERFORMANCE EITHER WAY

Publication
EP 0061159 A3 19830420 (EN)

Application
EP 82102236 A 19820318

Priority
US 24612381 A 19810320

Abstract (en)
[origin: EP0061159A2] A reversible enclosed cast centrifugal impeller containing radial impeller vanes shaped with a gradual change in the vane angle on both identical working sides for identical hydraulic performance in either direction is provided in a centrifugal pump. Fluid flow enters into the impeller eye and careful rounding of the inlet edges to an airfoil shape, combined with a small vane thickness reduces cavitation. A fully concentric case gives symmetrical uniform flow areas between the vanes and an exit flow splitter directing the flow through the impeller into the concentric case, thereby eliminating flow separation at the impeller exit and controlling required exit area. Axial thrust balancing holes are used to reduce the pressure area behind the back shroud. The splitter angle is the same as the absolute exit angle of the fluid leaving the impeller to avoid shock losses.

IPC 1-7
F04D 29/22; **F04D 1/04**

IPC 8 full level
F04D 1/04 (2006.01); **F04D 29/22** (2006.01)

CPC (source: EP)
F04D 1/04 (2013.01); **F04D 29/2283** (2013.01)

Citation (search report)
• [X] DE 1528861 A1 19701022 - STULENS JEAN LOUIS
• [A] FR 2281045 A7 19760227 - BOSCH SIEMENS HAUSGERAETE [DE]
• [A] US 2291478 A 19420728 - LA BOUR HARRY E

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Designated contracting state (EPC)
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