

Title (en)  
VENTRICULAR ASSIST DEVICE COMPRISING AN ENCLOSED-IMPELLER AXIAL FLOW BLOOD PUMP

Title (de)  
VENTRIKULARE UNTERSTÜTZUNGSVORRICHTUNG MIT AXIALBLUTPUMPE MIT INNENFLÜGELLAUFRAD

Title (fr)  
APPAREIL D'ASSISTANCE VENTRICULAIRE AVEC POMPE A SANG AXIALE A ROTOR FERME

Publication  
**EP 0986409 A1 20000322 (EN)**

Application  
**EP 98923962 A 19980529**

Priority  
• CA 9800534 W 19980529  
• CA 2206644 A 19970530

Abstract (en)  
[origin: WO9853864A1] The axial flow blood pump comprises a stationary housing structure, and an impeller rotatably mounted in the stationary housing structure about an axis of rotation to produce a flow of blood along this axis of rotation. The impeller includes a generally cylindrical shroud centered on the axis of rotation, a plurality of impeller blades extending inwardly from the inner surface of the shroud to intersect with each other at the axis of rotation, and a central hub centered on the axis of rotation and formed by the intersection of the impeller blades. The axial flow blood pump further comprises an electric motor drive incorporated in both the generally cylindrical shroud and the stationary housing structure. More specifically, the electric motor drive comprises a set of windings enclosed in the stationary housing structure, and a set of elongated axial permanent magnets embedded in the shroud. The axial flow blood pump can be used in an implantable ventricular assist device. The enclosed-impeller axial flow geometry of the pump, as well as the small diameter of the central hub substantially increase the volume of blood the pump is capable of containing and therefore of pumping.

IPC 1-7  
**A61M 1/10**; F04D 13/06

IPC 8 full level  
**A61M 60/174** (2021.01); **A61M 60/237** (2021.01); **A61M 60/416** (2021.01); **A61M 60/806** (2021.01); **A61M 60/857** (2021.01); **A61M 60/861** (2021.01); **A61M 60/873** (2021.01); **A61M 60/876** (2021.01)

CPC (source: EP US)  
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Citation (search report)  
See references of WO 9853864A1

Cited by  
US11964145B2; US11511103B2; US11654275B2; US11185677B2; US11717670B2; US10722631B2; US11229784B2; US11724089B2; US12076545B2

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