

Title (en)  
MECHANICAL CIRCULATORY SUPPORT DEVICE WITH AXIAL FLOW TURBOMACHINE OPTIMIZED FOR HEART FAILURE AND CARDIO-RENAL SYNDROME

Title (de)  
MECHANISCHE KREISLAUFUNTERSTÜTZUNGSVORRICHTUNG MIT AXIALSTRÖMUNGSTURBOMASCHINE MIT OPTIMIERUNG FÜR HERZINSUFFIZIENZ UND HERZ-NIEREN-SYNDROM

Title (fr)  
DISPOSITIF DE SUPPORT CIRCULATOIRE MÉCANIQUE AVEC TURBOMACHINE À ÉCOULEMENT AXIAL OPTIMISÉE POUR L'INSUFFISANCE CARDIAQUE ET LE SYNDROME CARDIO-RÉNAL

Publication  
**EP 3519008 A4 20200826 (EN)**

Application  
**EP 17858942 A 20170929**

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• US 201715619335 A 20170609  
• US 2017054573 W 20170929

Abstract (en)  
[origin: WO2018067410A1] Mechanical circulatory supports configured to operate in series with the native heart are disclosed. In an embodiment, an intravascular propeller is installed into the descending aorta and anchored within via an expandable anchoring mechanism. The propeller and anchoring mechanism may be foldable so as to be percutaneously deliverable to the aorta. The propeller may have foldable blades. The blades may be magnetic and may be driven by a concentric electromagnetic stator circumferentially outside the magnetic blades. The stator may be intravascular or may be configured to be installed around the outer circumference of the blood vessel. The support may create a pressure rise between about 20-50 mmHg, and maintain a flow rate of about 5 L/min. The support may have one or more pairs of contra- rotating propellers to modulate the tangential velocity of the blood flow. The support may have static pre-swirlers and or de-swirlers. The support may be optimized to replicate naturally occurring vortex formation within the descending aorta.

IPC 8 full level  
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CPC (source: EP US)  
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Citation (search report)  
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• [X] US 2014051908 A1 20140220 - KHANAL SANJAYA [US], et al  
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• [A] WO 2016097976 A1 20160623 - TAMBURINO CORRADO [IT], et al  
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