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(54) Title: INTRAVASCULAR BLOOD PUMP ROTOR

(57) **Abstract:** Disclosed is a blood pump rotor, and an intravascular blood pump that utilizes the rotor. The blood pump rotor is configured to rotate around an axis of rotation, and comprises a distal portion and a proximal portion. The distal portion includes a rotor hub, which tapers in a distal direction. The rotor hub has at least one blade extending outward from the rotor hub. Further, a distal end of said rotor hub extends distally beyond a most distal portion of the at least one blade. The proximal portion, which is connected to the distal portion, has permanent magnets arranged so as to form a modified Halbach array generating a magnetic field having a magnetic flux in a proximal direction that is greater than a magnetic flux in a distal direction, said first magnetic flux being greater than said second magnetic flux. The Halbach array is modified such that either (a) at least one axial magnetized magnet has a most proximal point or portion of a surface that is a different distance from said distal end as compared to a most proximal point or portion of a surface of at least one circumferential magnetized magnet, (b) at least one axial magnetized magnet has a physical dimension that is different from a corresponding physical dimension of at least one circumferential magnetized magnet, or (c) a combination thereof.

WO 2022/216713 A2