



Integrated Rotor for an Electrical Machine and Compressor

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The Invention

An electric machine includes a rotor, a stator, and a winding. The rotor includes a rotor core and blades extending from the rotor core. Each blade is curved in an axial direction along the rotor core and is simultaneously configured as a pole that carries a magnetic flux of the electrical machine and as an airfoil that compresses a gas when the rotor is rotated. The gas flows axially between successive blades of the blades. The stator includes a stator core and teeth extending from the stator core toward the blades. Slots are defined between successive teeth. The winding is wound through at least two slots. The stator is mounted radially relative to the rotor so that a gap separates the blades from an exterior face of the teeth that is axially aligned along the stator core to follow an axial edge of a blade of the blades.

Additional Information

For More Information About the Inventors

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Tech Fields

- [Engineering : Electric machines](#)

For current licensing status, please contact Michael Carey at mcarey@warf.org or 608-960-9867