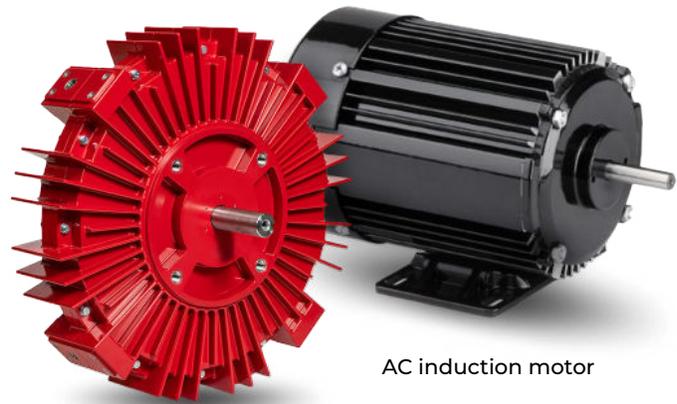


Reduced Volume and Mass

By removing the heavy iron core and replacing it with our innovative PCB stator, Infinitum can drastically reduce motor weight.

Our coreless PCB stators weigh almost 90% less than equivalent stators with an iron core. With the iron removed and attractive forces eliminated from the machine (see low acoustic noise and bearing current white papers as well), the structural requirements for our machine are drastically reduced. Further, the continuous coil design in our stator optimizes coil geometry, providing maximum power density and efficiency at a fraction of the size and weight. Our current density can be more than four times higher than machines with traditional iron laminations and copper windings (~13,000 A/in² vs. ~3,000 A/in²), substantially reducing the copper mass for the same current rating. The table below and image above show volume and mass comparison of two motors with the same rating — a 5 HP 3,600 RPM Infinitum Aircore EC motor vs. a 5 HP 3,600 RPM NEMA Premium induction motor. Our proprietary design algorithm allows us to design and produce stators with virtually any dimension, so we can increase or decrease motor diameter and length as desired.



Infinitum Aircore EC motor

AC induction motor

5 HP Motor	Diameter	Length	Weight
NEMA Premium Induction	8.5 in	22.5 in	110 lb
Infinitum	14.0 in	5.0 in	50 lb