

# High Efficiency



**One benefit of Infinitum’s innovative PCB ironless stator is the improved efficiency achieved through the elimination of stator hysteresis and eddy current losses, which are common in traditional ferromagnetic cores.**

The chart below shows an example of total losses per kg associated with a traditional stator core (the blue line is the total iron core losses, which is the sum of hysteresis and eddy current losses), which are minimal with Infinitum’s technology.

An additional benefit of Infinitum’s PCB ironless stator is the ability to optimize the stator winding design, thus minimizing eddy current losses and/or I<sup>2</sup>R losses without the limitations imposed by stator slot geometry and distribution, and consistently produce identical coils through precise and repeatable PCB manufacturing processes. These efficiency gains are seen across almost the entire speed range of our motors. The chart below shows an efficiency curve comparison of a 5 HP axial flux Infinitum motor vs. 5 HP iron core radial flux PM motor, both running at constant speed. The efficiency figures show the efficiency of the motor plus VFD.

