

Motor Rotor and Methods of Manufacture

Abstract

The present invention relates to a slotless motor including a thin-walled hollow rotor body 100, and methods of manufacture of such rotors, the methods including hot forming and machining steps. The rotor body has a rotational axis 102 and comprises a first cylindrical portion 104 having a first diameter, a second cylindrical portion 106 having a second diameter, larger than the first diameter and a third cylindrical portion 108 having a third diameter, smaller than the second diameter, the third cylindrical portion located at a second end of the rotor body 100. A first end cap 110 joins the first and second cylindrical portions together, and a second end cap 112 joins the first and second cylindrical portions together. The first, second and third cylindrical portions are all arranged coaxially with the rotational axis 102 of the rotor 100 such that the second cylindrical portion 108 and the first and second end caps collectively define a hollow cavity 114 in the rotor body 100. The rotor body 100 may be provided with a Halbach array.

[Fig. 2D]