A rotating power transformer has a stationary and a rotating part. At least one of these parts comprises a plurality of transformer segments which are preferably of plastic material. Rectangular shaped soft magnetic cores are held with within the transformer segments together with at least one winding located in the soft magnetic cores. This allows for a simple and efficient assembly of the rotating power transformer.

Fig. 3
AMENDED CLAIMS
received by the International Bureau on 05 March 2012 (05.03.2012)

1. Rotating power transformer having a stationary and a rotating part, at least one of the parts comprising:
   - a plurality of transformer segments (150) of metal or a plastic material,
   - rectangular cross sectioned soft magnetic cores (110) within the transformer segments,
   - at least one winding (141, 142, 143, 144) in the soft magnetic cores.

2. Rotating power transformer according to claim 1,
   characterized in, by
   a termination module for terminating the at least one winding.

3. Rotating power transformer according to claim 1,
   characterized in, by
   a cover for holding the at least one winding at a predetermined position.

4. Rotating power transformer according to any one of claims 1 to 3,
   characterized in, by
   at least one soft magnetic core (110) being glued to the body (101) and at least one of the spaces between the soft magnetic core, neighbourd soft magnetic cores, spacers, windings and the transformer segments being casted.

5. Rotating power transformer having a stationary and a rotating part, at least one of the parts comprising:
   - a body (101) of metal or a plastic material, having a circular groove (102),
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- rectangular cross sectioned soft magnetic cores (110) within the groove,
- wedge shaped spacers (111) between the soft magnetic cores,
- at least one winding (141, 142, 143, 144) in the soft magnetic cores,
- a termination module (112) for terminating the at least one winding.

6. Rotating power transformer according to claim 5, characterized in, by
the spacers (111) having further means for holding the at least one winding in place.

7. Rotating power transformer according to claim 5 or 6, characterized in, by
the spacers (111) having further means (138) for holding the magnetic cores in place.

8. Rotating power transformer according to any one of claims 5 to 7, characterized in, by
at least one clamp (148) fixed at the center bar of an E-shaped magnetic core for holding the magnetic core in place.

9. Rotating power transformer according to any one of claims 5 to 8, characterized in, by
at least one clamp (147) fixed around the wires (141, 143) of a winding for holding the winding in place.

10. Rotating power transformer according to any one of claims 5 to 9, characterized in, by
at least one soft magnetic core (110) being glued to the body (101) and at least one of the spaces between the soft magnetic core, neighboured soft magnetic cores, spacers, windings and the circular groove of the body being casted.

11. Rotating power transformer according to any one of claims 5 to 10, characterized in, by at least one soft magnetic core having at least one hole or groove to fix the soft magnetic cores to the body.

12. Rotating power transformer according to claim 11, characterized in, by at least one soft magnetic core having at least one hole or groove under the center bar of the soft magnetic core.