CLAIMS

1. An intravascular blood pump (1) for percutaneous insertion into a patient's blood vessel, comprising:

a pump casing (2) having a blood flow inlet (21) and a blood flow outlet (22),

an impeller (3) arranged in said pump casing (2) so as to be rotatable about an axis of rotation (10), the impeller (3) having blades (31) sized and shaped for conveying blood from the blood flow inlet (21) to the blood flow outlet (22),

a drive unit (4) for rotating the impeller (3), the drive unit (4) comprising a plurality of posts (40) arranged about the axis of rotation (10) and a back plate (50) connecting rear ends of the posts (40), wherein each of the rear ends (450) of the posts (40) has a rear end surface (45) arranged perpendicular to the axis of rotation (10), and

a coil winding (44) disposed around each of the posts (40), the coil windings being controllable so as to create a rotating magnetic field,

wherein the impeller (3) comprises a magnetic structure (32) arranged to interact with the rotating magnetic field so as to cause rotation of the impeller (3),

characterized in that the rear end surface (45) of at least one of the posts (40) contacts the back plate (50).

2. Intravascular blood pump (1) according to claim 1, wherein the at least one of the posts (40) comprises or consists of a soft magnetic material which is discontinuous regarding electric conductivity in a cross-section transverse to a longitudinal axis (LA) of the respective post (40).

3. Intravascular blood pump (1) according to claim 2, wherein the at least one of the posts (40) comprises or consists of a discontinuous soft magnetic material which is discontinuous in regard of electrical insulation, wherein the direction of discontinuity is oriented transverse to the axis of rotation (10).

4. Intravascular blood pump (1) according to any one of claims 1 to 3, wherein the back plate (50) has a recess (501) in which the rear end (450) of the at least one of the posts (40) is inserted.

5. Intravascular blood pump (1) according to claim 4, wherein the at least one of the posts (40) contacts the back plate (50) at a bottom of the recess (501).

6. Intravascular blood pump (1) according to any one of claims 4 or 5, wherein the back plate (50) comprises at least two layers (51, 52) which together form the recess (510), including a first layer (51) having a through hole (511) in which the at least one of the posts (40) is inserted and a second layer (52) contacted by the rear end surface (45) of the at least one of the posts (40).

7. Intravascular blood pump (1) according to claim 6, wherein a contact plane (526) arranged between the first layer (51) and second layer (52) extends transverse relative to the axis of rotation (10).

8. Intravascular blood pump (1) according to any one of claims 4 to 7, wherein a cross-section of the recess (501) corresponds, regarding form and size, to a cross-section (84) of the rear end (450) of the at least one of the posts (40) that is inserted in the recess (501).

9. Intravascular blood pump (1) according to any one of the preceding claims, wherein the back plate (50) comprises laminated sheets (85) of soft magnetic material.

10. Intravascular blood pump (1) according to claim 9, wherein the sheets (85) of soft magnetic material are oriented perpendicular to the axis of rotation (10).

11. Intravascular blood pump (1) according to any one of the preceding claims, wherein at least one of the posts (40) comprises laminated sheets (85) of soft magnetic material.

12. Intravascular blood pump (1) according to claim 11, wherein the laminated sheets (85) of soft magnetic material are oriented parallel to a longitudinal axis (LA) of the post (40).

13. Intravascular blood pump (1) according to any one of claims 9 or 12, wherein the thickness of at least one of the sheets (85) of soft magnetic material is between 350 µm and 1 mm, preferably between 500 and 700 µm, most preferred approximately 600 µm.