CLAIMS

1. An intravascular blood pump (P) for percutaneous insertion into a patient's blood vessel, comprising a pumping device (1) including an impeller (6) and an electric motor for driving the impeller (6), the electric motor including a stator and a rotor (7), the rotor (7) disposed inside a cavity (22) in the pumping device (1) and rotatable about an axis of rotation and coupled to the impeller (6) so as to be able to cause rotation of the impeller (6), wherein the cavity (22) is formed by an inner sleeve (14) made of a ceramic material

characterized in that the blood pump (P) further comprises an end piece (11) made of a ceramic material and attached to an axial end of the inner sleeve (14) in a fluid tight manner to enclose the cavity (22).

2. The blood pump of claim 1, wherein the stator comprises a coil winding (9) arranged on the inner sleeve (14) and configured for generating a magnetic field, preferably a rotating magnetic field, to cause rotation of the rotor (7).

3. The blood pump of claim 1, wherein the end piece (11) includes a bearing rotatably supporting the rotor (7), wherein the bearing preferably is a journal bearing.

4. The blood pump of any one of claims 1 to 3, wherein the cavity (22) is in fluid communication with a purge line (15) of the blood pump configured to supply a purge fluid into the cavity (22).

5. The blood pump of any one of claims 1 to 4, wherein the stator is sealed against the cavity (22) in a fluid tight manner by the inner sleeve (14).

6. The blood pump of any one of claims 1 to 5, wherein electrical connections (23, 24, 25) of the stator are formed at least partially on the inner sleeve (14).

7. The blood pump of any one of claims 2 to 5, wherein electrical connections (23, 24, 25) of the coil winding (9) are formed at least partially on the inner sleeve (14).

8. The blood pump of any one of claims 1 to 7, wherein the inner sleeve (14) has a wall thickness of 40 µm to 60 µm, preferably 50 µm.

9. The blood pump of any one of claims 1 to 8, wherein the inner sleeve (14) is substantially cylindrical.

10. The blood pump of any one of claims 1 to 9, wherein the stator is fixed outside the inner sleeve (14) by means of a casting compound (18), wherein the casting compound (18) preferably comprises a polymer material, preferably a resin, more preferably epoxy.

11. The blood pump of any one of claims 2 to 9, wherein at least the coil winding (9) is fixed outside the inner sleeve (14) by means of a casting compound (18), wherein the casting compound (18) preferably comprises a polymer material, preferably a resin, more preferably epoxy.

12. The blood pump of any one of claims 1 to 11, further comprising an outer sleeve (13) which forms at least a portion of an outer surface of the pumping device (1), wherein at least a portion of the stator is disposed in an interspace (19) between the outer sleeve (13) and the inner sleeve (14).

13. The blood pump of claim 12, wherein the outer sleeve (13) comprises a magnetically conductive material to form a yoke of the electric motor, wherein the outer sleeve (13) preferably comprises a metal or metal alloy.

14. Method of manufacturing an intravascular blood pump, in particular an intravascular blood pump of any one of the preceding claims, the blood pump comprising a pumping device (1) including an impeller (6) and an electric motor for driving the impeller (6), the electric motor including a stator and a rotor (7), the rotor (7) rotatable about an axis of rotation and coupled to the impeller (6) so as to be able to cause rotation of the impeller (6), the method comprising the steps of:

- providing an inner sleeve (14) made of a ceramic material to form a cavity (22) for receiving the rotor (7); and
- arranging a coil winding (9) on the inner sleeve (14) for generating magnetic field, preferably a rotating magnetic field, to cause rotation of the rotor (7)

characterized in that the method further comprises the step of attaching an end piece (11) made of a ceramic material to an axial end of the inner sleeve (14) in a fluid tight manner to enclose the cavity (22).

15. The method of claim 14, wherein the end piece (11) includes a bearing rotatably supporting the rotor (7), wherein the bearing preferably is a journal bearing.

16. The method of claim 14 or 15, further comprising the step of injection-molding a casting compound (18) around the inner sleeve (14) to encapsulate at least the coil winding (9) arranged on the inner sleeve (14).