CLAIMS

1. An intravascular blood pump, comprising a housing (20) and a rotatable shaft (25) carrying an impeller (34), wherein the shaft (25) extends out of the housing (20) through an opening (35) with the impeller (34) positioned outside said housing, the shaft and the housing having surfaces (25A, 33A) forming a circumferential gap (39) within said opening (35), wherein the gap (39) has a length and has a width, said width having a minimum width located somewhere within 50% of the length of the gap (39) closest to an impeller-side end (39A) of the gap (39).

2. The intravascular blood pump of claim 1, wherein the minimum width is present at the impeller-side end (39A) of the gap (39).

3. The intravascular blood pump according to claim 1 or 2, wherein the minimum width extends over 30% or less of the length of the gap (39).

4. The intravascular blood pump of claim 3, wherein the minimum width extends over not more than 20% of the length of the gap (39).

5. The intravascular blood pump according to any one of claims 1 to 4, wherein the length of the gap (39) is in the range of from 1 to 2 mm.

6. The intravascular blood pump of claim 5, wherein the length of the gap (39) is in the range of from 1.3 to 1.7 mm.

7. The intravascular blood pump of any one of claims 1 to 6, wherein the gap (39) converges continuously over at least part of its length up to where the gap (39) has the minimum width.

8. The intravascular blood pump according to claim 7, wherein the gap (39) converges linearly over at least part of its length.

9. The intravascular blood pump of any one of claims 1 to 8, wherein a diameter of the opening (35) converges towards the impeller-side end (39A) of the gap (39).

10. The intravascular blood pump according to any one of claims 1 to 9, wherein an outer diameter of the shaft (25) expands towards the impeller-side end (39A) of the gap (39).

11. The intravascular blood pump of claim 10, wherein the outer diameter of the shaft (25) has a circumferential groove stretching over an end of the gap (39) opposite the impeller-side end (39A) of the gap (39).

12. The intravascular blood pump according to claim 10, wherein the outer diameter of the shaft (25) expands from a constant diameter shaft section stretching over an end of the gap (39) opposite the impeller-side end (39A) of the gap (39) to a maximum outer diameter within the gap (39).

13. The intravascular blood pump according to any one of claims 1 to 12, wherein the minimum width of the gap (39) is 5 µm or less.

14. The intravascular blood pump according to claim 13, wherein the minimum width of the gap (39) is 2 µm or less.

15. The intravascular blood pump according to any one of claims 1 to 14, wherein a maximum width of the gap (39) is 15 µm or less.