CLAIMS

1. A nozzle for a fan assembly, the nozzle comprising:

an air inlet;

at least one air outlet;

an annular inner wall at least partially defining a bore through which air from outside the nozzle is drawn by air emitted from said at least one air outlet;

an outer wall extending about a longitudinal axis and about the inner wall; and

an interior passage located between the inner wall and the outer wall for conveying air from the air inlet to said at least one air outlet;

wherein the interior passage has a first section and a second section each for receiving a respective portion of an air flow entering the interior passage through the air inlet, and for conveying the portions of the air flow in opposite angular directions about the bore;

and wherein each section of the interior passage has a cross-sectional area formed from the intersection with the interior passage of a plane which extends through and contains the longitudinal axis of the outer wall, and wherein the cross-sectional area of each section of the interior passage decreases in size about the bore.

2. A nozzle as claimed in claim 1, wherein the cross-sectional area of each section of the interior passage tapers about the bore.

3. A nozzle as claimed in claim 1 or claim 2, wherein each section of the interior passage has the same variation in cross-sectional area.

4. A nozzle as claimed in any preceding claim, wherein the cross-sectional area of each section of the interior passage decreases in size about the bore from a first end for receiving air from the air inlet to a second end.

5. A nozzle as claimed in any preceding claim, wherein the cross-sectional area of each section has a minimum value located diametrically opposite the air inlet.

6. A nozzle as claimed in any preceding claim, wherein the cross-sectional area of each section has a first value located adjacent the air inlet and a second value located diametrically opposite the air inlet, and wherein the first value is at least 1.5 times the second value.

7. A nozzle as claimed in claim 6, wherein the first value is at least 1.8 times the second value.

8. A nozzle as claimed in any preceding claim, wherein each section of the nozzle has a radial thickness which varies in size about the bore.

9. A nozzle as claimed in any preceding claim, wherein each section of the nozzle has a substantially constant depth about the bore.

10. A nozzle as claimed in any preceding claim, wherein the inner wall is eccentric with respect to the outer wall.

11. A nozzle for a fan assembly, the nozzle comprising:

an air inlet;

at least one air outlet;

an interior passage for conveying air from the air inlet to said at least one air outlet;

an annular inner wall; and

an outer wall extending about the inner wall, the interior passage being located between the inner wall and the outer wall, the inner wall at least partially defining a bore through which air from outside the nozzle is drawn by air emitted from said at least one air outlet;

wherein the inner wall is eccentric with respect to the outer wall.

12. A nozzle as claimed in any preceding claim, wherein each of the inner wall and the outer wall extends about a respective longitudinal axis, and wherein the longitudinal axis of the outer wall is located between the air inlet and the longitudinal axis of the inner wall.

13. A nozzle as claimed in claim 12, wherein the longitudinal axis of the inner wall is located vertically above the longitudinal axis of the outer wall.

14. A nozzle as claimed in any preceding claim, wherein said at least one air outlet comprises a single air outlet.

15. A nozzle as claimed in claim 14, wherein the air outlet is annular.

16. A nozzle as claimed in claim 14 or claim 15, wherein said at least one air outlet is located between the inner wall and the outer wall.

17. A nozzle as claimed in any preceding claim, wherein said at least one air outlet is located at the front of the nozzle.

18. A nozzle as claimed in any of claims 14 to 17, wherein said at least one air outlet is located between overlapping portions of an internal surface of the inner wall and an external surface of the outer wall.

19. A nozzle as claimed in claim 18, wherein said overlapping portions are substantially parallel.

20. A nozzle as claimed in claim 18 or claim 19, wherein said overlapping portions are frusto-conical.

21. A nozzle as claimed in any of claims 18 to 20, wherein the overlapping portions inclined towards an axis of the bore.

22. A nozzle as claimed in any of claims 1 to 16, wherein said at least one air outlet is located towards the rear of the nozzle.

23. A nozzle as claimed in any of claims 1 to 16 and 22, wherein said at least one air outlet is located between overlapping portions of an external surface of the inner wall and an internal surface of the outer wall.

24. A nozzle as claimed in claim 23, wherein said at least one air outlet is configured to direct air over an external surface of the inner wall.

25. A nozzle as claimed in claim 24, wherein the external surface of the inner wall comprises a Coanda surface.

26. A fan assembly comprising an impeller, a motor for rotating the impeller to generate an air flow, and a nozzle as claimed in any preceding claim for receiving the air flow.

27. A fan assembly as claimed in claim 26, wherein the nozzle is mounted on a base housing the impeller and the motor.

28. A nozzle for a fan assembly or a fan assembly substantially as herein described with reference to the accompanying drawings.

CLAIMS

1. A nozzle for a fan assembly, the nozzle comprising:

an air inlet;

at least one air outlet;

an annular inner wall at least partially defining a bore through which air from outside the nozzle is drawn by air emitted from said at least one air outlet;

an outer wall extending about a longitudinal axis and about the inner wall; and

an interior passage located between the inner wall and the outer wall for conveying air from the air inlet to said at least one air outlet;

wherein the interior passage has a first section and a second section each for receiving a respective portion of an air flow entering the interior passage through the air inlet, and for conveying the portions of the air flow in opposite angular directions about the bore;

and wherein each section of the interior passage has a cross-sectional area formed from the intersection with the interior passage of a plane which extends through and contains the longitudinal axis of the outer wall, and wherein the cross-sectional area of each section of the interior passage decreases in size about the bore.

2. A nozzle as claimed in claim 1, wherein the cross-sectional area of each section of the interior passage tapers about the bore.

3. A nozzle as claimed in claim 1 or claim 2, wherein each section of the interior passage has the same variation in cross-sectional area.

4. A nozzle as claimed in any preceding claim, wherein the cross-sectional area of each section of the interior passage decreases in size about the bore from a first end for receiving air from the air inlet to a second end.

5. A nozzle as claimed in any preceding claim, wherein the cross-sectional area of each section has a minimum value located diametrically opposite the air inlet.

6. A nozzle as claimed in any preceding claim, wherein the cross-sectional area of each section has a first value located adjacent the air inlet and a second value located diametrically opposite the air inlet, and wherein the first value is at least 1.5 times the second value.

7. A nozzle as claimed in claim 6, wherein the first value is at least 1.8 times the second value.

8. A nozzle as claimed in any preceding claim, wherein each section of the nozzle has a radial thickness which varies in size about the bore.

9. A nozzle as claimed in any preceding claim, wherein each section of the nozzle has a substantially constant depth about the bore.

10. A nozzle as claimed in any preceding claim, wherein the inner wall is eccentric with respect to the outer wall.

11. A nozzle as claimed in any preceding claim, wherein each of the inner wall and the outer wall extends about a respective longitudinal axis, and wherein the longitudinal axis of the outer wall is located between the air inlet and the longitudinal axis of the inner wall.

12. A nozzle as claimed in claim 11, wherein the longitudinal axis of the inner wall is located vertically above the longitudinal axis of the outer wall.

13. A nozzle as claimed in any preceding claim, wherein said at least one air outlet comprises a single air outlet.

14. A fan assembly comprising an impeller, a motor for rotating the impeller to generate an air flow, and a nozzle as claimed in any preceding claim for receiving the air flow.

15. A fan assembly as claimed in claim 14, wherein the nozzle is mounted on a base housing the impeller and the motor.