CLAIMS

The invention claimed is:

1. A showerhead, comprising:

a housing having a fluid inlet and a fluid outlet;

a perforate partition provided in the housing between the inlet and the outlet having at least one peripheral fluid passage communicating with the fluid inlet, each peripheral fluid passage communicating at a downstream end with an inwardly extending peripheral slot, and each slot communicating at a downstream end with a mixing cavity; and

a nozzle body carried by the housing downstream of the mixing cavity having a compression port at an upstream end and an outlet port at a downstream end in fluid communication with the compression port.

2. The showerhead of claim 1, wherein the at least one peripheral fluid passage is provided by a plurality of peripheral ports.

3. The showerhead of claim 2, further comprising a center support post carried by the baffle centrally of the outlet port and through the compression port, and a rotor carried for rotation by the post downstream of the nozzle body having at least one fluid ejecting port provided at a distal end, an annular cavity communicating with the at least one port upstream of the at least one port, and a frustoconical feed cavity communicating with the nozzle body and the annular cavity, the rotor provided in spaced, non-contact relation with the nozzle body.

4. The showerhead of claim 3, wherein the housing comprises a cylindrical body having a surface of revolution mixing cavity.

5. The showerhead of claim 4, wherein the mixing cavity comprises an end portion of an oblate spheroid.

6. The showerhead of claim 4, wherein at least one of the peripheral slots extends in a radially inward direction.

7. The showerhead of claim 4, wherein at least one of the peripheral slots extends at an angle relative to a radially inward direction.

8. The showerhead of claim 7, wherein all of the at least one of the peripheral slots extend at an angle in one of a clockwise and a counterclockwise direction to impart a coherent whirlpool within the mixing cavity.

9. The showerhead of claim 4, wherein the peripheral slots form an array of inwardly extending, angularly offset from a radial direction, and circumferentially spaced apart peripheral slots.

10. The showerhead of claim 1, wherein the nozzle body comprises a tubular member having a through-passage.

11. The showerhead of claim 10, wherein the through-passage comprises an axial bore.

12. The showerhead of claim 10, wherein the through-passage comprises a diverging hollow portion.

13. The showerhead of claim 10, wherein at least a portion of the through-passage is conical.

14. The showerhead of claim 10, wherein the through passage comprises a smooth inner wall portion.

15. The showerhead of claim 3, wherein the rotor comprises a circumferential array of fluid ejecting ports.

16. The showerhead of claim 15, wherein all of the fluid ejecting ports extend solely in one of an axial direction and a radial direction.

17. The showerhead of claim 3, wherein the rotor comprises an outer nacellete and an inner cone supported coaxially within the nacellete.

18. The showerhead of claim 17, wherein a circumferential cavity is provided between the nacellete and the cone.

19. The showerhead of claim 18, wherein a portion of the cavity comprises a compression zone.

20. The showerhead of claim 18, wherein a portion of the cavity comprises an expansion zone.

21. A method of dispersing water, comprising:

providing a housing having a fluid inlet, a fluid outlet, and a baffle provided in the housing between the inlet and the outlet having at least one peripheral fluid passage that communicates with the inlet and extends through the baffle from the fluid inlet to the fluid outlet and communicates with at least one inwardly extending peripheral passage and terminates in a mixing cavity and a nozzle body downstream of the mixing cavity;

delivering a source of water under pressure to the fluid inlet;

dispersing the water through at least one peripheral fluid passage and into the at least one inwardly extending peripheral passage;

mixing the water in the mixing cavity;

compressing the mixed water through an upstream portion of the nozzle body and ejecting the mixed water from the nozzle body via the fluid outlet.

wherein the at least one peripheral fluid passage is provided by a plurality of peripheral ports, and each peripheral port communicates at a downstream end with a respective inwardly extending peripheral passage, wherein mixing comprises rejoining fluid from each of the plurality of inwardly extending peripheral passages within the mixing cavity.

22. The method of claim 21, wherein the step of mixing comprises swirling the water from each of the plurality of ports in one of a clockwise direction and a counterclockwise direction.

23. The method of claim 21, further comprising providing a fluid emitting rotor downstream of the nozzle body, and further comprising, after ejecting the water, impinging the water against the nozzle body to disperse the impinging water from the rotor.

24. The method of claim 23, wherein the rotor includes fluid emitting ports, wherein mixing further comprises swirling water in one of a clockwise direction and a counterclockwise direction and ejecting the swirling water from the nozzle, and impinging further comprises driving the rotor in a corresponding one of a clockwise direction and a counterclockwise direction responsive to the impinging swirling water.