

Claim

1. A sanitizing apparatus for sanitizing a fluid, the sanitizing apparatus comprising,
 - a chamber comprising an inlet for receiving the fluid thereinto and an outlet for discharging the fluid therefrom,
 - a divider adapted to divide the chamber into an upstream portion in fluid communication with the inlet and a downstream portion in fluid communication with the outlet,
 - a sanitizing light source disposed in the upstream portion and adapted to emit a sanitizing light to sanitize the fluid therein,
 - wherein the divider is adapted to obstruct the fluid flow from the inlet to increase the density of the fluid in the upstream portion wherein the fluid is sanitized before being discharged from the chamber via the outlet.
2. The sanitizing apparatus according to claim 1, wherein the divider is adapted to retain the fluid from the inlet in the upstream portion to be sanitized and release the fluid into the downstream portion to be discharged from the chamber via the outlet.
3. The sanitizing apparatus according to claim 2, wherein the divider comprises at least one opening adapted to toggle between a closed configuration to prevent the fluid from passing through and an opened configuration to allow the fluid to pass therethrough.
4. The sanitizing apparatus according to claim 2, wherein the divider comprises at least one opening and is flexible, wherein the divider is adapted to flex between an original position and a flexed position, wherein in the original position, the at least one opening is closed to prevent the fluid therethrough and in the flexed position, the at least one opening is opened to allow the fluid therethrough.
5. The sanitizing apparatus according to claim 4, wherein the divider is adapted to be flexed by the fluid in the upstream chamber from the original position to the flexed position, wherein in the flexed position, the at least one opening is opened for the fluid to be released from the upstream chamber.

6. The sanitizing apparatus according to claim 4, further comprising an actuator adapted to actuate the divider between the original position and the flexed position, wherein in the flexed position, the at least one opening is opened for the fluid to be released from the upstream chamber.
7. The sanitizing apparatus according to claim 1, wherein the divider comprises a plurality of micropores adapted to allow the fluid therethrough.
8. The sanitizing apparatus according to claim 7, wherein the divider comprises a fibre optic mesh comprising the plurality of micropores and adapted to transmit and emit the sanitizing light onto the fluid therethrough.
9. The sanitizing apparatus according to any one of claims 1 to 8, further comprising a restrictor adapted to restrict the fluid flow from the inlet therethrough.
10. The sanitizing apparatus according to claim 9, wherein the restrictor comprises a fibre optic mesh comprising a plurality of micro openings and adapted to transmit and emit the sanitizing light onto the fluid therethrough.
11. The sanitizing apparatus according to any one of claims 1 to 10, wherein the divider comprises a rough surface facing the inlet, wherein the rough surface is adapted to reduce the fluid flow rate along the divider.
12. The sanitizing apparatus according to any one of claims 1 to 11, further comprising an inlet pump adapted to pump fluid into the chamber via the inlet.
13. The sanitizing apparatus according to any one of claims 1 to 12, further comprising an outlet pump adapted to draw fluid out of the chamber via the outlet.
14. A sanitizing method for sanitizing a fluid, the method comprising,
receiving the fluid into an upstream portion of a divider of a chamber via an inlet,

obstructing the fluid flow from the inlet by the divider to increase the density of the fluid in the upstream portion,

sanitizing the fluid in the upstream portion before discharging the fluid from the chamber via the outlet.

15. The sanitizing method according to claim 14, further comprising retaining the fluid from the inlet in the upstream portion to be sanitized and releasing the fluid into a downstream portion of the divider to be discharged from the chamber via the outlet.

16. The sanitizing method according to claim 15, further comprising toggling at least one opening between a closed configuration to prevent the fluid from passing through and an opened configuration to allow the fluid to pass therethrough.

17. The sanitizing method according to claim 15, comprising flexing the divider between an original position and a flexed position, wherein in the original position, at least one opening of the divider is closed to prevent the fluid therethrough and in the flexed position, the at least one opening is opened to allow the fluid therethrough.

18. The sanitizing method according to claim 17, wherein the divider is adapted to be flexed by the fluid in the upstream chamber from the original position to the flexed position, wherein in the flexed position, the at least one opening is opened for the fluid to be released from the upstream chamber.

19. The sanitizing method according to claim 17, further comprising actuating the divider between the original position and the flexed position, wherein in the flexed position, the at least one opening is opened for the fluid to be released from the upstream chamber.

20. The sanitizing method according to any one of claims 14 to 19, further comprising pumping the fluid into chamber via the inlet.

21. The sanitizing method according to any one of claims 14 to 20, further comprising drawing the fluid out of the chamber via the outlet.