[CLAIMS]

1. A water treatment device comprising:

a dual-pipe structure unit including an outer pipe extending in an axial direction from a first end to a second end, an inner pipe provided in the outer pipe and extending in the axial direction, and a prevention member provided between the outer pipe and the inner pipe and preventing displacement of the inner pipe in a radial direction relative to the outer pipe; and

a light source unit provided to block an opening of the first end of the outer pipe in a liquid-tight manner and radiating ultraviolet light in the axial direction to irradiate water subject to treatment flowing in the inner pipe,

wherein the inner pipe includes an opposing end facing the light source unit across a gap provided between the opposing end and the light source unit, and an inflow end positioned opposite to the opposing end, the water subject to treatment flowing in through the inflow end, and

the outer pipe includes an outflow port provided on an outer circumferential surface of the outer pipe, and the water subject to treatment flowing out of the inner pipe via the gap flows out from the outflow port, and

the prevention member includes an inlaid flange provided to block a space between the second end of the outer pipe and the inflow end of the inner pipe, and the inlaid flange is sandwiched and fixed between a flange of the second end and a flange of the inflow end.

2. The water treatment device according to claim 1, wherein

a dimension of the gap in the axial direction is not less than 3 mm and not more than 30 mm.

3. The water treatment device according to claim 1, wherein

a difference between an inner diameter of the outer pipe and an outer diameter of the inner pipe is not less than 10 mm and not more than 50 mm.

4. The water treatment device according to claim 1, wherein

the outflow port is provided at a position closer to the second end than the first end.

5. The water treatment device according to claim 1, wherein

the light source unit includes a light emitting device for emitting ultraviolet light and a water-cooled mechanism for cooling the light emitting device, and the water-cooled mechanism is configured to be supplied with cooling water from a water intake port provided on the outer circumferential surface of the outer pipe, and

the water intake port is provided at a position radially opposite to the outflow port, sandwiching the inner pipe.

6. A water treatment device comprising:

a dual-pipe structure unit including an outer pipe extending in an axial direction from a first end to a second end, an inner pipe provided in the outer pipe and extending in the axial direction, and a prevention member provided between the outer pipe and the inner pipe and

preventing displacement of the inner pipe in a radial direction relative to the outer pipe; and

a light source unit provided to block an opening of the first end of the outer pipe in a liquid-tight manner and radiating ultraviolet light in the axial direction to irradiate water subject to treatment flowing in the inner pipe,

wherein the inner pipe includes an opposing end facing the light source unit across a gap provided between the opposing end and the light source unit, and an inflow end positioned opposite to the opposing end, the water subject to treatment flowing in through the inflow end and

the outer pipe includes an outflow port provided on an outer circumferential surface of the outer pipe, and the water subject to treatment flowing out of the inner pipe via the gap flows out from the outflow port, and

the prevention member includes an inlaid flange provided to block a space between the second end of the outer pipe and the inflow end of the inner pipe, and the inlaid flange is formed so as to be integrated with the inflow end as a step in contact with an inner circumferential surface of the outer pipe.

7. The water treatment device according to claim 6, wherein

a dimension of the gap in the axial direction is not less than 3 mm and not more than 30 mm.

8. The water treatment device according to claim 6, wherein

a difference between an inner diameter of the outer pipe and an outer diameter of the inner pipe is not less than 10 mm and not more than 50 mm.

9. The water treatment device according to claim 6, wherein

the outflow port is provided at a position closer to the second end than the first end.

10. The water treatment device according to claim 6, wherein

the light source unit includes a light emitting device for emitting ultraviolet light and a water-cooled mechanism for cooling the light emitting device, and the water-cooled mechanism is configured to be supplied with cooling water from a water intake port provided on the outer circumferential surface of the outer pipe, and

the water intake port is provided at a position radially opposite to the outflow port, sandwiching the inner pipe.

11. A water treatment device comprising:

a dual-pipe structure unit including an outer pipe extending in an axial direction from a first end to a second end, an inner pipe provided in the outer pipe and extending in the axial direction, and a prevention member provided between the outer pipe and the inner pipe and preventing displacement of the inner pipe in a radial direction relative to the outer pipe; and

a light source unit provided to block an opening of the first end of the outer pipe in a liquid-tight manner and radiating ultraviolet light in the axial direction to irradiate water subject to treatment flowing in the inner pipe,

wherein the inner pipe includes an opposing end facing the light source unit across a gap provided between the

opposing end and the light source unit, and an inflow end positioned opposite to the opposing end, the water subject to treatment flowing in through the inflow end, and

the outer pipe includes an outflow port provided on an outer circumferential surface of the outer pipe, and the water subject to treatment flowing out of the inner pipe via the gap flows out from the outflow port, and

the prevention member includes a plurality of lock pins extending in a radial direction from an inner circumferential surface of the outer pipe toward an outer circumferential surface of the inner pipe at a position closer to the first end than the second end, and the plurality of lock pins are arranged at equal intervals in a circumferential direction.

12. The water treatment device according to claim 11, wherein

a dimension of the gap in the axial direction is not less than 3 mm and not more than 30 mm.

13. The water treatment device according to claim 11, wherein

a difference between an inner diameter of the outer pipe and an outer diameter of the inner pipe is not less than 10 mm and not more than 50 mm.

14. The water treatment device according to claim 11 wherein

the outflow port is provided at a position closer to the second end than the first end.

15. The water treatment device according to claim 11, wherein

the light source unit includes a light emitting device for emitting ultraviolet light and a water-cooled mechanism for cooling the light emitting device, and the water-cooled mechanism is configured to be supplied with cooling water from a water intake port provided on the outer circumferential surface of the outer pipe, and

the water intake port is provided at a position radially opposite to the outflow port, sandwiching the inner pipe.