

CLAIMS

What is claimed is:

1. A closed conduit system for use in a water supply system, the closed conduit system comprising: a recirculating unit configured to connect to an isolated section of the water supply system between a first point and a second point while the isolated section remains under water supply system pressure, wherein the recirculating unit includes:

a first filter unit defining a first closed circuit that includes the isolated section, wherein the first filter unit is adapted to perform a first treatment,

a second filter unit defining a second closed circuit that includes the isolated section, wherein the second filter unit is adapted to perform a second treatment,

at least one pump capable of generating a circulating flow of water, and

a valve configured to selectively control flow of the circulating flow of water through either the first or the second closed circuit.

2. The closed conduit system of claim 1 wherein the isolated section of the water supply system is defined between a first hydrant and a second hydrant.

3. The closed conduit system of claim 1 wherein all of the water taken from the first point of the isolated section is returned to the second point of the isolated section.

4. The closed conduit system of claim 1 wherein each of the first filter unit and the second filter unit includes either particulate filter media or no filter element.

5. The closed conduit system of claim 1 wherein the first filter unit includes particulate filter media and the second filter unit includes granular activated carbon filter media.

6. The closed conduit system of claim 1 wherein the recirculating unit is mounted on a vehicle.

7. The closed conduit system of claim 1 wherein the recirculating unit is configured to couple with a municipal water main, a private fire main, a recycled distribution water main or a municipal water storage tank.

8. The closed conduit system of claim 1 wherein the at least one pump generates the circulating flow of water counter-current to a normal water main flow current.

9. The closed conduit system of claim 1 wherein the recirculating unit further includes:

an injector adapted to add material to the flow of water in one or both of the first closed circuit and the second closed circuit.

10. A method for testing, monitoring and/or cleaning a water supply system, the method comprising:

connecting a recirculating unit to a section of the water supply system under water supply system pressure between a first point and a second point, wherein the recirculating unit includes a first filter unit, a second filter unit, a valve and at least one pump;

isolating the section of the water supply system to form a first closed circuit including the first filter unit of the recirculating unit and a second closed circuit including the second filter unit of the recirculating unit;

selectively controlling flow to either the first or the second closed circuit via the valve; and

circulating water through the selected first or second closed circuit via the at least one pump.

11. The method of claim 10 wherein the water is circulated through the first closed circuit for a first period of time, wherein following the first period of time the valve is actuated to control flow to the second closed circuit wherein the water is circulated through the second closed circuit for a second period of time.

12. The method of claim 11 wherein each of the first filter unit and the second filter unit includes either particulate filter media or no filter element.

13. The method of claim 11 wherein the first filter unit includes particulate filter media and the second filter unit includes granular activated carbon filter media.

14. The method of claim 11 wherein the water is initially circulated through the first closed circuit at an ultra-high flow rate with the first filter unit having no granular activated carbon filter media, and wherein the water is then circulated through the second closed circuit at a reduced flow rate with the second filter unit including particulate filter media.

15. The method of claim 12 wherein all of the water taken from the first point of the isolated section is returned to the second point of the isolated section.

16. The method of claim 12 wherein the recirculating unit is mounted on a vehicle.

17. The method of claim 10 wherein the isolated section of the water supply system is defined between a first hydrant and a second hydrant.

18. The method of claim 10 wherein the pump circulates the water counter-current to a normal water main flow current.

19. The method of claim 10 wherein the recirculating unit further includes an injector adapted to add material to the flow of water in one or both of the first closed circuit and the second closed circuit.