CLAIMS

What is claimed is:

1. A redundant filtration assembly, comprising:

a main conduit for delivering a biological product, the main conduit further comprises:

a primary final fill filter disposed within the main conduit;

a first connector and a second connector at terminal ends of the main conduit;

a first pinch clamp disposed within the main conduit downstream of the first connector;

a redundant final fill filter disposed upstream of the primary final fill filter within the main conduit;

a first air line in fluid communication with the redundant final fill filter is joined to the main conduit, the first air line further comprising an integrity test connection at a distal end;

a vent, directly connected to the first air line;

at least one first vent bag in fluid communication with the redundant final fill filter;

two first tri-clamps disposed downstream of the redundant final fill filter, wherein a second pinch clamp is disposed between the two first tri-clamps;

two second vent bags, a second air line, and a gas filter are in fluid communication with the primary final fill filter;

a third tri-clamp is disposed in the main conduit downstream of the primary final fill filter;

a secondary conduit is joined to the main conduit;

the secondary conduit further comprises a barrier filter, the barrier filter and the secondary conduit are joined with the main conduit, a third pinch clamp is disposed on the main conduit, wherein the main conduit terminates at the second connector.

2. The redundant filtration assembly of claim 1, wherein the integrity test connection is connected to an air supply.

3. The redundant filtration assembly of any one of claim 1 and claim 2, wherein a gas filter is downstream of the integrity test connection.

4. The redundant filtration assembly of any one of claims 1-3, wherein there are two first vent bags.

5. The redundant filtration assembly of any one of claims 1-4, further comprising a sampling bag.

6. The redundant filtration assembly of any one of claim 4 and claim 5, further comprising a clamp or a valve is disposed on the first air line between the two first vent bags.

7. The redundant filtration assembly of any one of claims 1-5, wherein the vent is an aseptic multi-purpose port (AMPP).

8. The redundant filtration assembly of any one of claims 1-7, further comprising a peristaltic pump having a conduit connected to the integrity test connection at a first end of the conduit.

9. The redundant filtration assembly of any one of claims 1-8, further comprising more than one integrity test connection.

10. The redundant filtration assembly of any one of claims 1-9, wherein a second end of the conduit is connected to a different integrity test connection than the first end of the conduit.

11. The redundant filtration assembly of any of claims 1-10, further comprising a recirculation vessel.

12. The redundant filtration assembly of any one of claims 1-11, further comprising a data acquisition system.

13. The redundant filtration assembly of any one of claims 1-12, wherein the redundant filtration assembly is single-use.

14. The redundant filtration assembly of any one of claims 1-12, wherein the redundant filtration system comprises stainless steel.

15. The redundant filtration assembly of any one of claim 13 and claim 14, wherein the redundant filtration system comprises stainless steel and single-use components.

16. A method of integrity testing of at least one final fill filter of the redundant filtration assembly of any one of claims 1-15, the method comprising:

- **a.** flowing a wetting liquid through the final fill filter;
- **b.** introducing pressurized air into the redundant filtration assembly through the air line further comprising the integrity testing connection at the distal end;
- **c.** draining the assembly of the wetting liquid;
- **d.** passing the pressurized air through the gas filter on the air inlet and through the vent and the final fill filter before exiting the redundant filtration assembly through an outlet; and
- **e.** performing at least one test selected from the group consisting of: a bubble point test, a diffusion test, a water flow test, and a pressure hold test.

17. The method of claim 16, wherein the vent is an aseptic multi-purpose port (AMPP) vent port.

18. The method of any one of claims 16 and 17, further comprising placing a clamp between the primary final fill filter and the redundant final fill filter, thereby avoiding fluid communication between the downstream side of the redundant final fill filter and the air inlet for the primary final fill filter.

19. The method of any one of claims 16-18, wherein the draining step is performed using a gravity drain.

20. The method of any one of claims 16-19, wherein the draining step is performed using a blow-down.

21. The method of any one of claims 16-20, wherein the final fill filter is the primary final fill filter.

22. The method of any one of claims 16-21, wherein the final fill filter is the redundant final fill filter.

23. The method of any one of claims 16-22, further comprising closing the AMPP vent port on the primary final fill filter.

24. The method of claim 23, wherein the barrier filter is the final outlet of the pressurized air.

25. The method of any one of claims 16-22, further comprising opening the AMPP vent port on the primary final fill filter.

26. The method of any of claims 16-22, wherein the AMPP vent port is the final outlet of the pressurized air.

27. The method of any one of claims 16-22 and 26, wherein the pressurized air passes sequentially through an air inlet for the redundant final fill filter and the redundant final fill filter and exits the redundant filtration assembly through the AMPP vent port of the redundant final fill filter.

28. The method of any one of claims 16-22, wherein the pressurized air passes sequentially through an air inlet of redundant final fill filter into the redundant final fill filter and exits the redundant filtration assembly through AMPP vent port of the primary final fill filter.

29. The method of any one of claims 16-22, wherein the pressurized air passes sequentially through an air inlet of redundant final fill filter into the redundant final fill filter and exits the redundant filtration assembly through an air inlet of the primary final fill filter.`