What is claimed is:

1. A method of filtering a liquid feed, comprising:

a) passing a liquid feed through a tangential flow filtration (TFF) system that comprises:

a plurality of stacked filtration modules that are fluidly connected, each filtration module comprising:

a single manifold segment comprising a first manifold for receiving and carrying the feed into the filtration module, a second manifold for receiving and carrying retentate out of the filtration module, and a third manifold for receiving and carrying permeate through the filtration module; and

a plurality of TFF cassettes that are stacked on one or both faces of, and are fluidly connected to, the manifold segment,

wherein the manifold segments are stacked and the manifolds in the manifold segments are coupled to created a centralized serial flow path through the system for feed and retentate;

a feed inlet on the first filtration module in the system;

a retentate outlet on the last filtration module in the system;

a recirculation loop for recirculating retentate through all or part of the system; and

at least one conduit for recirculating retentate;

the TFF system having a liquid flow path that is parallel through the cassettes in each filtration module and serial through the manifold segments in adjacent filtration modules by coupling the first manifold in each manifold segment to the

second manifold of an adjacent manifold segment, such that the retentate of one module serves as the feed for the manifold segment of the next filtration module, except that the first manifold in the first manifold segment of the filtration module in the system is connected to the feed inlet and the second manifold in the manifold segment of the last filtration module in the system is connected to the retentate outlet;

b) recovering permeate in a permeate container and recovering a portion of the retentate from the system in a retentate container without recirculation of the recovered retentate through the TFF system; and

c) recirculating the retentate that has not been recovered in (b) through all or part of the TFF system and repeating (b) and (c) at least once.

2. The method of claim 1, wherein about 10% or less of the retentate exiting the TFF system is recirculated.

3. The method of claim 1, wherein the TFF system includes a valve or flow meter that is positioned on the retentate outlet or conduit carrying retentate from the system to the retentate container to control the amount of retentate that is recirculated.

4. The method of claim 1, wherein retentate is recirculated back to a feed container in the TFF system or back to a feed line after a feed pump in the TFF system.

5. The method of claim 1, wherein the first and second manifolds in the manifold segment contain a seal or a valve.

6. The method of claim 1, wherein each filtration module contains one or more TFF cassettes on one or both faces of the manifold segment.

7. The method of Claim 10, wherein the filtration area for each filtration module is about 20 m^2 or less.

8. The method of claim 1, wherein the at least one filtration module further comprise valves on the flow channels between the TFF cassettes, wherein the cassettes are processed in parallel when the valves are open, or in series when the valves are closed.

9. The method of claim 1, further comprising adding a diafiltration step, wherein the diafiltration step includes concentration and dilution steps.

10. The method of claim 1, wherein the TFF system further comprises one or more of: sampling port, a T-line for in-line buffer addition, a pressure sensor, a diaphragm for a pressure sensor, a reservoir for diafiltration solution, and a conduit for delivering diafiltration to a feed reservoir.

11. The method of claim 1, wherein the TFF system lacks diverter plates.

12. The method of claim 1, wherein the filtration modules can have the same or different filtration areas from each other.

13. The method of claim 1, wherein the manifolds in the single manifold segment have the same diameter throughout the filtration system or the manifolds in the single manifold segment have progressively smaller diameters from single manifold segment to single manifold segment.

14. The method of Claim 7, wherein the filtration area for each filtration module is selected from about 10 m^2, about 1.0 m^2 or about 0.1 m^2.