CLAIMS:

1. A filtration apparatus for treating a fluid, comprising:

a vessel;

a first partition plate defining a through hole;

a second partition plate, wherein the first and second partition plates divide the vessel into first, second and third chambers, the first and second partition plates being arranged such that the second chamber is interposed between the first and third chambers, with the first partition plate located above the second partition plate;

a filtration module arranged generally vertically within the vessel and located within the second chamber and including a body section defining an outer width which is greater than the width of the through hole in the first partition plate; and

a reducing connector defining an upper end of the filtration module and having a first end secured to the body section of the filtration module and a second end sealed relative to the through hole in the first partition plate to permit communication between the filtration module and the first chamber.

2. The apparatus according to claim 1, wherein the reducing connector defines a permeate outlet of the filtration module.

3. The apparatus according to claim 1 or 2, wherein the reducing connector comprises:

a first portion for securing to the body section of the filtration module;

a second portion which defines a smaller width than the first portion and is sealed relative to the through hole; and

a tapered portion extending between the first and second portions.

4. The apparatus according to claim 1, 2 or 3,

wherein at least a portion of the reducing connector extends into the through hole in the first partition plate and is sealed relative to an internal surface of the through hole.

5. The apparatus according to any preceding claim,

wherein the filtration module comprises one or more filtration membranes including at least one of a micro-filtration membrane, an ultra-filtration membrane, a nano-filtration membrane and a reverse osmosis membrane.

6. The apparatus according to any preceding claim, wherein the filtration module comprises an outer shroud, and the reducing connector is secured to the shroud; and optionally wherein the shroud comprises one or more ports to permit fluid communication between external and internal regions of the shroud.

7. The apparatus according to claim 6 selected from one or more of the following:

wherein one or more ports are arranged to permit communication with the second chamber; and/or

wherein one or more ports are located adjacent the reducing connector; and/or

wherein one or more ports are positioned to permit fluid to be retained within the filtration module, irrespective of the level of any fluid contained within the second chamber.

8. The apparatus according to any preceding claim,

wherein the filtration module extends between the first and second partition plates.

9. The apparatus according to any preceding claim, wherein the second partition plate defines a through hole and an inlet of the filtration module is sealed relative to said through hole to permit communication between the filtration module and the third chamber.

10. The apparatus according to claim 9, selected from one or more of the following:

wherein the through hole in the second partition plate defines a smaller width than the outer width of the filtration module; and/or

comprising a further reducing connector having a first end secured to the body section of the filtration module and a second end sealed relative to the through hole in the second partition plate; and optionally wherein at least a portion of the further reducing connector is inserted into the through hole in the second partition plate.

11. The apparatus according to claim 9 or 10, comprising a tubular member extending from the through hole in the second partition plate into the third chamber and providing communication between the third chamber and the filtration module.

12. The apparatus according to any preceding claim, comprising:

a plurality of filtration modules each sealingly engaged relative to a respective through hole in the second partition plate; and

a plurality of tubular members each extending from a respective through hole and into the third chamber.

13. A method for manufacturing a filtration apparatus, comprising:

securing a filtration module generally vertically within a vessel, and relative to a first and second partition plate within the vessel, wherein the first and second partition plates divide the vessel into first, second and third chambers and wherein the first and second partition plates are arranged such that the second chamber is interposed between the first and third chambers, with the first partition plate located above the second partition plate, wherein the first partition plate defines a through hole which is smaller than the width of a body section of the filtration module, and wherein a reducing connector defines an upper end of the filtration module, the reducing connector having a first end

secured to the body section of the filtration module and a second end sealed relative to the through hole in the first partition plate to permit communication between the filtration module and the first chamber; and

mounting the partition plate within a vessel.

14. The method according to claim 13, comprising:

securing the filtration module relative to a second partition plate, wherein the second partition plate defines a through hole which is smaller than the width of the body section of the filtration module; and

mounting the second partition plate within the vessel; and/or

wherein at least one of the partition plates is mounted within the vessel before, during or after the filtration module is secured to said at least one of the partition plates.