WHAT IS CLAIMED IS:

1. A membrane filtration system, comprising:

a treatment bath;

a membrane support frame that includes a subsidiary frame and is disposed in the treatment bath;

a separation membrane module installed in the membrane support frame, the separation membrane module comprising an upper frame, a lower frame, and a plurality of hollow fiber membranes provided between the upper frame and the lower frame; a length adjusting part arranged under the subsidiary frame to adjust a distance (Lo) between the upper frame and the lower frame by moving the subsidiary frame up and down;

a reciprocating part connected with the membrane support frame to reciprocate the membrane support frame; and

a sludge floating part disposed on a lower end of the membrane support frame to float sludge accumulated in the treatment bath,

wherein the length adjusting part is configured to automatically adjust the distance (Lo) by a vertical movement amount depending on a reciprocating distance of the separation membrane module.

2. The membrane filtration system according to claim 1, wherein a sump is provided in the upper frame, and the sump and a hollow portion of the hollow fiber membranes are in fluid communication with each other.

3. The membrane filtration system according to claim1, wherein each of

the upper and the lower frames comprises an interval maintaining part protruding from each of the upper and the lower frames.

4. The membrane filtration system according to claim 3, wherein the interval maintaining part comprises a coupling part and a pair of adjacent interval maintaining parts, the pair of adjacent interval maintaining parts including first and second interval maintaining parts, the coupling part operable to couple the first interval maintaining part to the second interval maintaining part.

5. The membrane filtration system according to claim 1, wherein the plurality of hollow fiber membranes are arranged in a plurality of bundles, the respective bundles being spaced apart from each other.

6. The membrane filtration system according to claim1, wherein the separation membrane module includes a plurality of separation membrane modules respectively installed in the membrane support frame.

7. The membrane filtration system according to claim 6,

wherein the subsidiary frame is configured to receive the lower frame of each of the plurality of separation membrane modules.

8. The membrane filtration system according to claim 6, further comprising:

a filtration pipe coupled to the membrane support frame, wherein the plurality of separation membrane modules is coupled to the filtration pipe.

9. The membrane filtration system according to claim 8, wherein the filtration pipe includes a plurality of coupling holes, each of the plurality of coupling holes coupled to a respective end of the upper frame, whereby the sump and the filtration pipe are in fluid communication with each other.

10. The membrane filtration system according to claim 9, wherein the filtration pipe is disposed on a central portion of an upper side of the membrane support frame, and the plurality of separation membrane modules is symmetrically coupled to both sides of the filtration pipe.

11. The membrane filtration system according to claim 8, wherein the filtration pipe is arranged to be perpendicular to a reciprocating direction of the membrane support frame.

12. The membrane filtration system according to claim 1, further comprising: a length adjusting part for adjusting a distance (Lo) between the upper frame and the lower frame wherein the length adjusting part is further configured to adjust the distance (Lo) depending on a reciprocating period of the separation membrane module.

13. The membrane filtration system according to claim1, wherein each hollow fiber membrane has a length that is greater than (Lo) and less than or equal to (Lo+0.1(Lo)).

14. The membrane filtration system according to claim1, wherein the length adjusting part comprises at least one hydraulic cylinder arranged under the subsidiary frame.

15. The membrane filtration system according to claim 14, wherein the at least one hydraulic cylinder includes a hydraulic cylinder disposed on every vertex of the subsidiary frame.

16. The membrane filtration system according to claim 14, further comprising:

a calculation part determining a vertical movement amount of the subsidiary frame; based on a minimum length of the hollow fiber membranes and

a drive part providing the vertical movement amount determined by the calculation part to the hydraulic cylinder to drive the hydraulic cylinder.

17. The membrane filtration system according to claim 1, wherein the length adjusting part comprises:

a shaft disposed on the subsidiary frame;

a cam coupled to the shaft to be rotatable integrally with the shaft; and

a motor rotating the shaft.

18. The membrane filtration system according to claim 1,

wherein the length adjusting part comprises an unwinding part to wind or unwind an end of the separation membrane.

19. A membrane bioreactor, comprising:

a biological treatment train performing at least one biological treatment process among anaerobic, anoxic and aerotropic processes; and

a membrane filtration system comprising

a treatment bath,

a membrane support frame that includes a subsidiary frame and is disposed in the treatment bath;

a separation membrane module installed in the membrane support frame,

the separation membrane module comprising an upper frame, a lower frame, and a plurality of hollow fiber membranes provided between the upper frame and the lower frame; a length adjusting part arranged under the subsidiary frame to adjust a distance (Lo) between the upper frame and the lower frame by moving the subsidiary frame up and down; a reciprocating part connected with the membrane support frame to reciprocate the membrane support frame, and

a sludge floating part disposed on a lower end of the membrane support frame to float sludge accumulated in the treatment bath,

wherein the length adjusting part is configured to automatically adjust the distance (Lo) by a vertical movement amount, depending on at least one of a reciprocating distance and a reciprocating period of the separation membrane module.