CLAIMS

1. A biomolecule analyzer comprising:

a first buffer solution tank;

a second buffer solution tank that is disposed above the first buffer solution tank;

a separation unit in which a separation medium is stored, having a first opening that opens within the first buffer solution tank and a second opening that opens within the buffer solution tank, and standing up in a substantially vertical direction;

an arm part that retains a transfer membrane disposed at a position opposing the first opening; and

a drive unit that is provided under the first buffer solution tank, and drives the arm part in a substantially horizontal direction,

wherein the arm part is so shaped and configured as to pass along outer sides of opposed side walls of the first buffer solution tank, extend across and wrap around upper ends of these side walls, pass along the inner sides of these side walls and span the width of the first buffer tank and wherein the drive unit is operatively connected to that portion of the arm part that is not located within the first buffer tank.

2. The biomolecule analyzer according to claim 1,

wherein the transfer membrane has a first end that is forward in a movement direction according to driving of the

arm part and a second end that is rearward in the movement direction, and

wherein the arm part includes a first fixing part that fixes the first end, a second fixing part that fixes the second end, and an elastic body that biases the first fixing part and the second fixing part in directions facing away from each other.

3. The biomolecule analyzer according to claim 2,

wherein a support member for supporting the transfer membrane from an opposite side of the transfer membrane to the separation unit is provided at a bottom part of the first buffer solution tank, and

wherein the transfer membrane is bent by the separation unit so that an opposite side to the separation unit becomes convex.

4. The biomolecule analyzer according to claim 3, wherein the support member is formed on the bottom part at positions to form a pair interposing a position opposing the first opening.

5. The biomolecule analyzer according to claim 1,

wherein the transfer membrane has a first end that is forward in a movement direction according to driving of the arm part, and a second end that is rearward in the movement direction, and

wherein the arm part includes a first fixing part that fixes the first end, a second fixing part that fixes the second end, and a connection part that connects the first fixing part and the second fixing part to be separated by a predetermined distance.

6. The biomolecule analyzer according to claim 5, wherein the connection parts are disposed at positions to interpose the transfer membrane from lateral sides relative to the movement direction.

7. The biomolecule analyzer according to any one of claims 1, 5 and 6,

wherein a support member that supports the transfer membrane from an opposite side to the separation unit of the transfer membrane is provided to a bottom part of the first buffer solution tank, and

wherein the transfer membrane is bent by the separation unit so that an opposite side to the separation unit becomes convex.

8. The biomolecule analyzer according to claim 7, wherein the support members are respectively formed on the bottom part to form a pair at positions interposing a position that opposes the first opening.

9. The biomolecule analyzer according to claim 8, wherein a

slope angle of the transfer membrane from a position contacting the support member until a position contacting the first opening is at least 1° and no more than 60° downwards relative to a horizontal plane.

10. The biomolecule analyzer according to any one of claims 1 to 9,

wherein a portion of the arm part that wraps around the upper ends of the side walls is detachable from the drive unit, and

wherein the first buffer solution tank is detachable from the biomolecule analyzer.

11. The biomolecule analyzer according to claim 10, wherein the arm part is linked to the drive unit, and has a first portion extending at outer sides of the side walls until a position aligning with upper ends of the side walls, and a second portion that fits with the first portion, and extends to an inner side of the side walls by spanning the upper ends of the side walls.

12. The biomolecule analyzer according to any one of claims 1 to 11, wherein the first buffer solution tank, the second buffer solution tank and the separation unit are transparent.

13. The biomolecule analyzer according to any one of claims 1 to 12, wherein a first electrode is disposed in the first

buffer solution tank,

wherein a second electrode is disposed in the second buffer solution tank, and

wherein the transfer membrane is disposed so as to be interposed between the first opening and the first electrode.

14. The biomolecule analyzer according to any one of claims 1 to 13,

wherein the separation unit is mounted to be detachable relative to the second buffer solution tank, and

wherein the second buffer solution tank is mounted to be detachable relative to the first buffer solution tank.