CLAIMS

1. A connecting structure comprising:

a membrane element having a filtration main body used for membrane separation, a water collection portion that collects treated water having undergone the membrane separation from an end portion of the filtration main body and a treated water lead-out portion that leads out the treated water coming from the water collection portion; and

a water collection pipe having a tubular peripheral wall to which the treated water lead-out portion is connected and collecting the treated water led out from the treated water lead-out portion, wherein

the tubular peripheral wall has

a thick portion that is thicker in a radial direction of the tubular peripheral wall, and

a connecting hole that penetrates the thick portion in an inward-and-outward direction of the tubular peripheral wall,

the treated water lead-out portion is connected to the connecting hole and communicates with an inside of the tubular peripheral wall, and

the thick portion of the tubular peripheral wall is provided, in a horizontal direction among the radial direction of the tubular peripheral wall, at an upper-side peripheral wall portion located at an upper side in the radial direction of the

tubular peripheral wall, and the thick portion is thicker in the horizontal direction.

2. A connecting structure comprising:

a membrane element having a filtration main body used for membrane separation, a water collection portion that collects treated water having undergone the membrane separation from an end portion of the filtration main body and a treated water lead-out portion that leads out the treated water coming from the water collection portion; and

a water collection pipe having a tubular peripheral wall to which the treated water lead-out portion is connected and collecting the treated water led out from the treated water lead-out portion, wherein

the tubular peripheral wall has

a thick portion that is thicker in a radial direction of the tubular peripheral wall, and

a connecting hole that penetrates the thick portion in an inward-and-outward direction of the tubular peripheral wall,

the treated water lead-out portion is connected to the connecting hole and communicates with an inside of the tubular peripheral wall, and

the thick portion of the tubular peripheral wall is provided, in a horizontal direction among the radial direction of the tubular peripheral wall, at a lower-side peripheral wall portion located

at a lower side in the radial direction of the tubular peripheral wall, and the thick portion is thicker in the horizontal direction.

3. The connecting structure as claimed in claim 1 or 2, wherein

the water collection pipe having the tubular peripheral wall is a non-dividable long structure that is not divided in an axial direction of the water collection pipe.

4. The connecting structure as claimed in any one of the preceding claims 1 to 3, wherein

a pair of membrane modules, each of which is formed by the plurality of membrane elements arranged at predetermined intervals in an axial direction of the tubular peripheral wall, are arranged on opposite sides of the tubular peripheral wall, and

the tubular peripheral wall is provided with the connecting holes at positions facing the treated water lead-out portions of the membrane elements of the pair of membrane modules.

5. The connecting structure as claimed in any one of the preceding claims 1 to 4, wherein

the treated water lead-out portion has a liquid-tight portion that is liquid-tightly inserted into the connecting hole and a fitting portion that is fitted into the connecting hole.

6. A membrane filtration device having the connecting structure as claimed in any one of the preceding claims 1 to 5, comprising:

a rack whose plurality of frames are assembled into an enclosure, wherein

a membrane module formed by the plurality of membrane elements arranged at predetermined intervals in an axial direction of the tubular peripheral wall is accommodated and supported in the rack.