CLAIMS

1. A filtration treatment apparatus comprising a plurality of filtration systems stacked and arranged in a vertical direction, the filtration systems being coupled by using pillars extending in the vertical direction, wherein

the filtration system includes a plurality of filtration membrane units arranged in parallel in a thickness direction of filtration membranes, a first holding unit that holds one end in a longitudinal direction of the filtration membrane units, a second holding unit that holds another end in the longitudinal direction of the filtration membrane units, and a pair of side covers that extend in a direction orthogonal to an extending direction of the first holding unit and the second holding unit and couple the first holding unit and the second holding unit,

each of the pair of side covers is provided with a pillar penetration portion that allows a pillar to vertically penetrate,

the pillar penetration portion is disposed at a position spaced apart in the vertical direction from each of an upper end and a lower end of the side cover, and

the pillar is divided pillars divided according to a vertical length of the filtration system, and the divided pillars are coupled via a coupler disposed between a first pillar penetration portion provided in a first filtration

system and a second pillar penetration portion provided in a second filtration system.

2. The filtration treatment apparatus according to claim 1, wherein

a recessed portion recessed toward an inner surface side is formed in a bottom surface portion of the side cover at an intersection position of an axis of the pillar penetration portion in a penetrating direction and a perpendicular line to an outer surface of the side cover.

3. The filtration treatment apparatus according to claim 1 or 2, wherein

the divided pillars include recesses and protrusions on outer peripheral surfaces of both ends,

the couplers each include a cover portion that covers one end of one of the two divided pillars to be coupled and another end of another of the two divided pillars to be coupled from an outer peripheral side, and is formed of two members that are divided into two in the axial direction of the divided pillar, and

the cover portion includes engagement recesses and protrusions to be engaged with the recesses and protrusions of the one end and the recesses and protrusions of the another end.

4. The filtration treatment apparatus according to claim 3, comprising:

at least a same number of hangers for hanging the filtration system as a number of axes of the plurality of pillar penetration portions, wherein

the hangers are formed of two members that each include a cover portion that covers another ends of the divided pillars from an outer peripheral side, an insertion portion to be inserted into the recessed portion, and engagement recesses and protrusions to be engaged with the recesses and protrusions of the another ends, the two members being divided into two in the axial direction of the divided pillar.