

SUBMERGED HOLLOW FIBER MEMBRANE MODULE

ABSTRACT

The abilities of a hollow fiber membrane to peel off and discharge suspended materials in washing the hollow fiber membranes is enhanced and long-term durability in terms of physical strength of a module is improved by a submerged hollow fiber membrane module comprising a cylindrical housing having openings at the upper and lower ends, in which at least a part of an upper half of an external exposed part of a peripheral wall is composed of a porous component and a lower half of the external exposed part of the peripheral wall is not opened, hollow fiber membrane bundles each comprising many hollow fiber membranes placed vertically in the cylindrical housing, a hollow fiber membrane bundle binding component which is disposed at an upper end part of the hollow fiber membranes, fixes the hollow fiber membranes in a state where the hollow part of each hollow fiber membrane is opened and is adhesively fixed to the cylindrical housing, a water collecting cap connected to the hollow fiber membrane bundle binding component, a hollow fiber membrane sealing component which is disposed at a lower end part of the hollow fiber membranes and seals the hollow part of each hollow fiber membrane, and an air collecting cylinder which is disposed outside the hollow fiber membrane sealing component and is adhesively fixed to the cylindrical housing, wherein a bonding part in the cylindrical housing, which is bonded to the aforementioned air collecting cylinder, is composed of a porous component.

Fig. 1