

MEMBRANE SEPARATION DEVICE

ABSTRACT

A membrane separation apparatus comprises: a shell (1), wherein an inner surface (11) of the shell is an arc surface, and at least one medium inlet and at least one medium outlet used for discharging a medium that is separated are arranged on the shell (1); a rotor (2) arranged inside the shell (1), wherein at least two contact ends (24, 26) that are always in slidably contact with the inner surface (11) of the shell are arranged on an outer surface of the rotor (2), the outer surface of the rotor (2) and the inner surface (11) of the shell form sealed separate cavities between the adjacent contact ends (24, 26), and an empty part inside the rotor (2) is used as a medium storage chamber; and separation chambers (32, 34, 36) arranged inside the rotor (2), wherein insides of the separation chambers (32, 34, 36) are filled with a membrane (6), one-way valves corresponding to the separate cavities are arranged on outer walls of the separation chambers (32, 34, 36) for communicating with the separate cavities, medium outlets corresponding to the medium storage chamber are arranged on inner walls of the separation chambers (32, 34, 36), and the medium storage chamber is communicated with the medium outlet of the shell (1).