WHAT IS CLAIMED IS:

[Claim 1] A water treatment facility, comprising:

a first membrane filtration device;

a second membrane filtration device, provided at a stage subsequent to the first membrane filtration device;

a reservoir tank, in which a portion of permeated water that has permeated through the first membrane filtration device is stored;

a circulation flow path, provided between the first membrane filtration device and the reservoir tank, and enabling the permeated water stored in the reservoir tank to circulate between the first membrane filtration device and the reservoir tank;

a pump, comprised in the circulation flow path; and

a control section, controlling the pump to circulate the permeated water stored in the reservoir tank between the first membrane filtration device and the reservoir tank through the circulation flow path after completion of filtration membrane cleaning involving air introduction to the first membrane filtration device.

[Claim 2] The water treatment facility according to claim 1, wherein

the circulation flow path consists of

a first circulation flow path that supplies the permeated water that has permeated through the first membrane filtration device to the reservoir tank, and

a second circulation flow path that enables supply of the permeated water stored in the reservoir tank to a primary side of the first membrane filtration device, and

the pump comprised in the second circulation flow path.

[Claim 3] The water treatment facility according to claim 1 or 2, wherein the circulation flow path is a closed-type flow path, and the reservoir tank is an open-type reservoir tank.

[Claim 4] The water treatment facility according to claim 1 or 2, wherein

the first membrane filtration device consists of a plurality of membrane filtration units

connected in parallel to each other, and

the circulation flow path is configured to be capable of supplying the permeated water to each of the plurality of membrane filtration units, and

the control section circulates the permeated water stored in the reservoir tank between any one of the membrane filtration units and the reservoir tank through the circulation flow path.

[Claim 5] A method for operating a water treatment facility which comprises a first membrane filtration device, a second membrane filtration device provided at a stage subsequent to the first membrane filtration device, and a reservoir tank in which a portion of permeated water that has permeated through the first membrane filtration device is stored, the method for operating the water treatment facility comprising:

a water passage process of supplying the permeated water filtered by the first membrane filtration device to the second membrane filtration device; and

a cleaning process of performing filtration membrane cleaning on the first membrane filtration device during the water passage process, and

the cleaning process comprising at least

an air cleaning stage of performing filtration membrane cleaning using air on the first membrane filtration device, and

an air release stage of, after the air cleaning stage, circulating the permeated water between the first membrane filtration device and the reservoir tank through a circulation flow path while allowing the permeated water to permeate from a primary side of the first membrane filtration device.

[Claim 6] The method for operating the water treatment facility according to claim 5, wherein the reservoir tank is an open-type reservoir tank, and

air discharged from the first membrane filtration device along with the permeated water in the air release stage is degassed in the reservoir tank.

[Claim 7] The method for operating the water treatment facility according to claim 5 or 6,

wherein

the first membrane filtration device consists of a plurality of membrane filtration units connected in parallel to each other,

the circulation flow path, circulating the permeated water between the first membrane filtration device and the reservoir tank is configured to be capable of supplying the permeated water to each of the plurality of membrane filtration units, and

the cleaning process is performed on a portion of the membrane filtration units among the plurality of membrane filtration units, and the water passage process is performed on the remaining membrane filtration units.

[Claim 8] The method for operating the water treatment facility according to claim 7, wherein when the cleaning process is performed sequentially for the plurality of membrane filtration units, the water passage process is performed on all of the membrane filtration units between a preceding cleaning process for one membrane filtration unit and a subsequent cleaning process for another membrane filtration unit.