

ABSTRACT OF THE DISCLOSURE

BIOLOGICAL TREATMENT APPARATUS, BIOLOGICAL TREATMENT METHOD,
AND PROGRAM

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A biological treatment apparatus (100) is provided, including a biological treatment tank (11), a membrane separation apparatus (1) which has a tubular filtration membrane having a monolayer structure in which hydrophilic monomers are copolymerized, a booster pump (21) configured to supply the supply water (W3) to the membrane separation apparatus (1), a suction pump (22) configured to suck the permeate water (PW) from the membrane separation apparatus (1), a back pressure-regulating device (23) configured to regulate the back pressure of the permeation side space, an inter-membrane differential pressure-measuring device (14) configured to measure an inter-membrane differential pressure, and a control device (13) configured to control the booster pump (21), the suction pump (22), and the back pressure-regulating device (14) on the basis of the inter-membrane differential pressure, in which the control device (13) includes a back pressure-regulating unit (13a) configured to decrease the back pressure when the inter-membrane differential pressure increases to a predetermined value or more, and a setting change unit (13b) configured to increase at least one of the pressurizing force of the booster pump and the suction force of the suction pump by controlling at least one of the booster pump and the suction pump and to increase the back pressure when the regulation range of the back pressure-regulating device has reached the limit.

25 [Fig. 1]