

ABSTRACT

MULTI-STAGE SEAWATER DESALINATION APPARATUS AND OPERATION CONTROL METHOD OF MULTI-STAGE SEAWATER DESALINATION APPARATUS

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Included is a high-pressure pump P_1 that increases the pressure of raw water 11 to a predetermined high pressure, a high-pressure reverse osmosis device 13 including a high-pressure reverse osmosis membrane 13a for concentrating a salt content in high-pressure feed water 12 whose pressure is increased, a first drain valve 21 that is mounted on a permeated water line L_2 for supplying the permeated water 14 downstream and temporarily drains permeated water 14 of an initial start-up from a discharge line L_6 , a low-pressure pump P_2 that is mounted on a permeated water line L_3 provided downstream of the first drain valve 21 and reduces the pressure of the permeated water 14 to a predetermined low pressure, a low-pressure reverse osmosis device 16 including a low-pressure reverse osmosis membrane 16a for concentrating a salt content in low-pressure feed water 15 whose pressure is reduced by the low-pressure pump P_2 , and a second drain valve 22 that is mounted on a discharge line L_5 at the concentrated water side of the low-pressure reverse osmosis device 16 and temporarily discharges the low-pressure feed water 15 of the initial start-up supplied to the low-pressure reverse osmosis device 16.

30 Fig. 1