

ABSTRACT

There is used a crystallization reactor provided with a crystallization reaction tank 10 having a crystallization reaction unit 28 for adding a calcium preparation to a raw water containing a crystallization target substance and generating crystals of a poorly soluble salt, wherein an inner peripheral wall 26 which faces an outer peripheral wall of the crystallization reaction tank 10 is disposed inside the crystallization reaction tank 10, and a solid-liquid separation unit 30 which forms an upward flow between the inner and outer peripheral walls and performs a solid-liquid separation of the crystals and the treated water is provided inside the crystallization reaction tank 10. A valve 18 provided in a raw water supply line 16 is opened so that the duration of supply of the raw water to the crystallization reaction tank 10 is at least $1/2$ but not more than 5 times the retention time in the solid-liquid separation unit 30, and following supply of the raw water, the valve 18 provided in the raw water supply line 16 is closed so that the duration for which supply of the raw water to the crystallization reaction tank 10 is stopped is at least $1/5$ but not more than 1 times the retention time in the solid-liquid separation unit 30.