

~~Summary of the Invention~~

~~Problem to be Solved by the Invention~~

[0005]

5 However, in the cleaning methods disclosed in Patent Documents 1 and 3, fouling substances present in portions which do not come in contact with the heated gas or liquid are not easily decomposed (or dissolved), and hence it takes time to remove the fouling substances. In the
10 cleaning method disclosed in Patent Document 2, the gas is only allowed to flow through a primary side space, and hence it takes time to remove the fouling substances in an analogous way as in the cleaning methods disclosed in Patent Documents 1 and 3. The cleaning method disclosed in
15 Patent Document 4 is a method of allowing a cleaning solution to permeate a primary side space from a secondary side space (so-called reverse cleaning). This method is effective for cleaning a solid-liquid separation membrane in which pores of submicron levels are formed and an amount
20 of a permeating composition including a component to be selectively separated and the other components is large. However, in a liquid-liquid separation membrane or a gas-gas separation membrane in which pores of nano levels are formed and the amount of the above permeating composition
25 is small, the fouling substances eluted from the cleaning solution are stagnant in the secondary side space, and are not suitably discharged. Therefore, the cleaning treatment

takes time. The cleaning method disclosed in Patent Document 5 is a method of forming a membrane of a different material on the surface of the separation membrane. In this method, a process of forming the membrane of the different material is added, and hence the cleaning becomes costly.

[0006]

As described above, there has been the problem that a long operation time is required for cleaning a ceramic filter to recover the separation performance.

[0007]

The present ~~invention~~disclosure has been developed in view of such problems of the conventional technologies. An object thereof is to provide a method for cleaning a ceramic filter which can shorten an operation time required to clean the ceramic filter.

Means for Solving the Problem

[0008]

According to the present ~~invention~~disclosure, a method for cleaning a ceramic filter is provided as follows.

[0009]

[1] A method for cleaning a ceramic filter, comprising: reducing a pressure of a space on a secondary side of the uncleaned ceramic filter, while supplying a cleaning medium to a space on a primary side of the uncleaned ceramic filter, thereby passing the cleaning medium through the uncleaned ceramic filter, so that the

uncleaned ceramic filter is cleaned.

[0010]

[2] The method for cleaning the ceramic filter according to the above [1], wherein a temperature of the cleaning medium is from 25 to 450°C.

[0011]

[3] The method for cleaning the ceramic filter according to the above [1] or [2], wherein the pressure in the secondary side space is from 0.03 to 50 kPa.

[0011a]

In a first aspect of the present disclosure, there is provided a method for cleaning a ceramic filter, comprising:

reducing a pressure of a space on a secondary side of the uncleaned ceramic filter, while supplying a cleaning medium having a temperature of 25 to 450°C to a space on a primary side of the uncleaned ceramic filter, thereby passing the cleaning medium through the uncleaned ceramic filter, so that the uncleaned ceramic filter is cleaned,

wherein the pressure in the secondary side space is from 0.03 to 50 kPa.

~~Effect of the Invention~~

[0012]

In the method for cleaning a ceramic filter of the present ~~invention~~ disclosure, "a pressure of a space on a secondary side of the uncleaned ceramic filter is reduced, while supplying a cleaning medium to a space on a primary

side of the uncleaned ceramic filter". In this way, the cleaning medium is passed through the uncleaned ceramic filter, so that the uncleaned ceramic filter is cleaned. Therefore, in the method for cleaning the ceramic filter of the present ~~invention~~disclosure, fouling substances adhering to the ceramic filter can be removed in a short time. Therefore, the operation time required to clean the ceramic filter can be shortened. That is, the separation performance of the ceramic filter can be recovered in a short time.

Brief Description of the Drawings

[0013]