

ABSTRACT

ABATEMENT DEVICE

Provided is an abatement device that reduces an amount of drainage of circulating water. The abatement device lowers an average drainage flow of circulating water to a low flow, when a ratio of a concentration of silicon dioxide within the circulating water and a concentration of hydrogen fluoride within the circulating water is greater than or equal to a predetermined value at which hydrofluorosilicic acid can be produced, and raises the average drainage flow of the circulating water to a high flow higher than the low flow, when the ratio of the concentration of silicon dioxide within the circulating water and the concentration of hydrogen fluoride within the circulating water is less than the predetermined value.

FIG. 1

10 PROCESS CHAMBER
11a, 11b MASS FLOW CONTROLLER
20 DRY PUMP
30 ABATEMENT DEVICE
31 CONTROL MEANS
32a FLOW METER
G1 PROCESS GAS
G2 CLEANING GAS
G3 HF GAS
R1 ACID DRAINAGE WATER

FIG. 2

31 CONTROL MEANS
32a, 39a FLOW METER
39 MAKEUP WATER SUPPLY MEANS
39a FLOW METER
G3 HF GAS
R1 ACID DRAINAGE WATER
COOLING WATER