

METHOD AND APPARTUS FOR
SEPARATING, REMOVING, AND RECOVERING GAS COMPONENTS

ABSTRACT OF THE DISCLOSURE

A raw gas containing a gas component A with low affinity with an adsorbent and a gas component C with high affinity with the adsorbent are sequentially supplied to at least three adsorption columns, while an adsorption gas containing a gas component D which differs from the gas components A and C is supplied to each of the adsorption columns other than the one to which the raw gas is being supplied. When the raw gas is supplied to the adsorption columns, the gas component A having lower affinity with the adsorbent exits the adsorption columns earlier than the gas component C having higher affinity. The gas components A and C can thus be separated from each other. When a gas including an enriched gas component A is discharged from the outlet of each adsorption column, the full amount is extracted out of the system. When a gas including an enriched gas component C is discharged from the outlet of each adsorption column, the full amount is extracted out of the system. When the gas mixture containing the gas components A and C is discharged from the exit of each adsorption column, all the discharged gas is fed back to the inlet of the adsorption column to which the raw gas is being supplied. It is possible to efficiently and sequentially separate the gas components A and C with this simple structure.

Figure 1

