Claims

[Claim 1]

Switching device comprising:
a gas header module having at least an infeed portion through which a gas is fed in and an outfeed portion through which a gas is fed out; and
a first switching module and a second switching module respectively arranged on both sides of the gas header module,

wherein the gas header module comprises:
a first branch infeed pipe directed towards the first switching module and a second branch infeed pipe directed towards the second switching module, said first and second branch infeed pipes branching from a main pipe of the infeed portion of the gas header module;

a first branch outfeed pipe corresponding to a pipe arriving from the first switching module and a second branch outfeed pipe corresponding to a pipe arriving from the second switching module; and

a linking pipe for connecting the pipe arriving from the first switching module and the pipe arriving from the second switching module,

the first switching module comprises:
a first infeed-side pipe which is linked to the first branch infeed pipe and is linked to an inlet pipe of a first adsorption column, and a first outfeed-side main pipe which is linked to an outlet pipe of the first adsorption column;

a first outfeed-side branch pipe which branches from the first outfeed-side main pipe and is linked to the first branch outfeed pipe; and

a second outfeed-side branch pipe which branches from the first outfeed-side main pipe and is linked to the linking pipe, and

the second switching module comprises:
a second infeed-side pipe which is linked to the second branch infeed pipe and is linked to an inlet pipe of a second adsorption column, and a second outfeed-side main pipe which is linked to an outlet pipe of the second adsorption column;

a third outfeed-side branch pipe which branches from the second outfeed-side main pipe and is linked to the second branch outfeed pipe; and

a fourth outfeed-side branch pipe which branches from the second outfeed-side main pipe and is linked to the linking pipe.

[Claim 2]

Switching device according to Claim 1, wherein a pipe layout of the first switching module and a pipe layout of the second switching module are symmetrically configured about the gas header module.

[Claim 3]

Switching device according to Claim 1 or 2, wherein the gas header module, the first switching module and the second switching module are each further configured to be separable above and below a height position of the linking pipe of the gas header module.

[Claim 4]

Switching device according to any one of Claims 1 to 3, wherein the size of each module housed inside a cuboid is set in accordance with a pipe diameter of a pipe which is set correspondingly with a required raw air amount, and a transportation restriction size.