ABSTRACT OF THE DISCLOSURE

COMPOSITE GAS TREATMENT SYSTEM

Disclosed is a composite gas treatment system for efficiently scrubbing low and high temperature flammable gaseous effluents produced in a chemical process, and discharging the scrubbed gaseous effluents into the ambient environment with relatively low costs. The system includes a stand-alone housing having an upper compartment and a lower compartment, a low temperature burner disposed in the upper compartment to thermally decompose the low temperature flammable gaseous effluent at a first temperature, a high temperature burner disposed in the upper compartment in parallel to the low temperature burner to thermally decompose the high temperature flammable gaseous effluent at a second temperature higher than the first temperature, and a fuel gas producing unit disposed in the lower compartment to spontaneously produce fuel gas for the high temperature burner. The system further includes a dust collector arranged at an outlet of the low temperature burner to collect particulates laden in the thermally decomposed gas discharged from the low temperature burner, and a wet type scrubber arranged at an outlet of the high temperature burner to allow the thermally decomposed gas discharged from the high temperature burner to come into contact with moisture, thereby scrubbing the thermally decomposed gas.

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