

## Combustion Characteristics of diffusive catalytic burners

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Recently as the price of crude oil has been soared, the calorific price of natural gas is relatively lower than that of conventional heating fuels. Diffusive mat-type catalytic burner has been known to be effective in the industrial drying process of organic materials. In order to extend the application of diffusive catalytic burner, combustion characteristics of mat-type catalytic burner was investigated. For diffusive catalytic burners, combustion efficiency was significantly affected by the installation method. Its combustion efficiency was above 99% when it was placed vertically and upward, whereas the combustion efficiency rapidly deteriorated to less than 80% when it was installed in downward position. In the case of downward installation, it was also found that inclination of the burner to about 10° was improved significantly in combustion efficiency. In drying of flame-retarded material, it was seen that drying time was less affected by the depth of samples and was relatively short compared with that in conventional drying process. This result was considered to be due to radiative heat transfer by far-infrared ray.